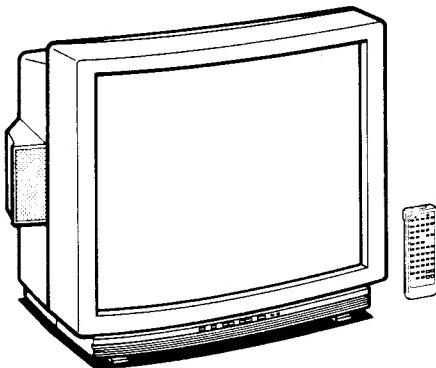


KV-27EXR20/27EXR25

RM-Y103 RM-Y104

SERVICE MANUAL



6783
US Model

KV-27EXR20

Chassis No. SCC-D50E-A

KV-27EXR25

Chassis No. SCC-D50F-A

Canadian Model

KV-27EXR25

Chassis No. SCC-D61C-A

ANU-2 CHASSIS

MODELS OF THE SAME SERIES	
KV-27EXR20/EXR25	
KV-27EXR10/EXR15	

SPECIFICATIONS

Television system American TV standards
 Channel coverage VHF: 2 – 13
 UHF: 14 – 69
 Cable TV: 1 – 125
 Picture tube Microblack™ Trinitron® tube
 27-inch picture measured diagonally
 28-inch picture tube measured diagonally
 Antenna 75-ohm external antenna terminal for VHF/UHF
 Input VIDEO 1 and 2 IN
 S VIDEO IN (4-pin mini DIN)
 Y: 1 Vp-p, 75-ohms unbalanced, sync negative
 C: 0.286 Vp-p (Burst signal), 75-ohms
 Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
 Audio (phono jacks): 500 mVrms (100% modulation)
 Impedance: 47 kilohms
 Output VIDEO 2 OUT
 Video (phono jack): 75-ohms unbalanced, sync negative
 Audio (phono jacks): Impedance: 10 kilohms

AUDIO OUT (VARIABLE) (phono jacks)
 More than 408 mVrms at the maximum volume setting (variable)
 Impedance: 5 kilohms
 Speaker output 5 W x 2
 Power requirements 120 V AC, 60 Hz
 Power consumption

	Max.	Standby
KV-27EXR20	160 W	1.5 W
KV-27EXR25	165 W	

Supplied accessories
 (KV-27EXR20)
 Remote commander RM-Y103 with 2 size AA (R6) batteries (1)
 (KV-27EXR25)
 Remote commander RM-Y104 with 2 size AA (R6) batteries (1)
 Antenna connector (1)

Recommended accessories
 U/V mixer EAC-66
 Connecting cable
 VMC-810/820S, YC-15 V/30 V

Dimensions 659.0 X 594.3 X 508.5 mm
 (W X H X D)

Weight 49.0 kg
 Design and specifications are subject to change without notice.

TRINITRON® COLOR TV
SONY®



TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1.	GENERAL		4	SAFETY RELATED ADJUSTMENTS	22
1-1.	Location of Controls	4	5	CIRCUIT ADJUSTMENTS	
1-2.	Presetting TV Channels	5	6	5-1. Electrical Adjustment by Remote Commander	26
1-3.	Watching TV Programs	6	10	5-2. A Board Adjustments	28
1-4.	Adjusting Picture and Sound quality	8	11	5-3. P Board Adjustments (KV-27EXR25 only)	32
1-5.	Using Picture-in-Picture (KV-27EXR25 only)	8	14		
1-6.	Using the Universal Remote Commander	10			
1-7.	Using the GUIDE Function (on-screen menu)	11			
1-8.	Enjoying other Useful Features	14			
2.	DISASSEMBLY		6.	DIAGRAMS	
2-1.	Rear Cover Removal	15	6-1.	Block Diagram	35
2-2.	U Board Removal (KV-27EXR20)	15	6-2.	Circuit Boards Location	39
2-3.	U Board and P Board Removal (KV-27EXR25)	15	6-3.	Schematic Diagrams and Printed Wiring Boards	39
2-4.	Service Position	15	6-4.	Semiconductors	61
2-5.	Picture Tube Removal	16			
3.	SET-UP ADJUSTMENTS		7.	EXPLODED VIEWS	
3-1.	Beam Landing	17	7-1.	Chassis	62
3-2.	Convergence	18	7-2.	Picture Tube	63
3-3.	Focus	20			
3-4.	G2, White Balance Adjustments	20	8.	ELECTRICAL PARTS LIST	64

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURTCIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE.
LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MAPQUE Δ SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES remplacer que par des composants sony dont le numero de piece est indique dans le present manuel ou dans des supplement publies par sony. les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement est suspecte.

SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a coldwater pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

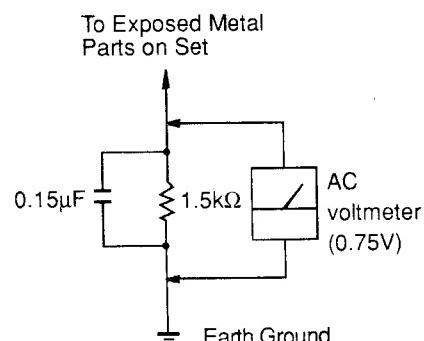


Fig. A. Using an AC voltmeter to check AC leakage.

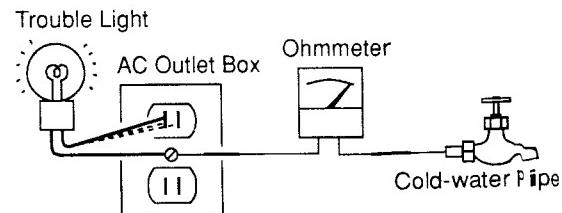


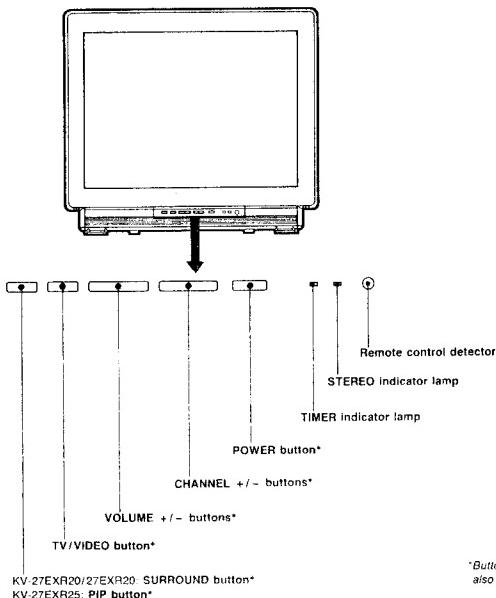
Fig. B. Checking for earth ground.

SECTION 1

GENERAL

1-1. LOCATION OF CONTROLS

Front panel



Universal Remote Commander

PIP/VTR (Picture-in-Picture or video) selector
(KV-27EXR25 only)

VCR/Sony multi disc player operation buttons **
(KV-27EXR25 only)

**Function as buttons for the Picture-in-Picture operations when PIP is selected (See page 8).

Channel presetting buttons

MUTING button

CABLE button

Input select buttons (TV/VIDEO 1/2)

Channel number buttons

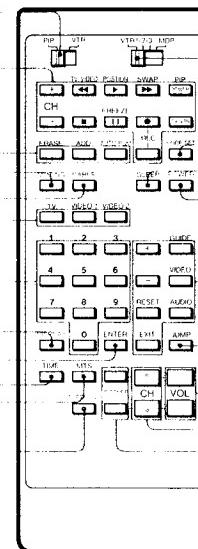
DISPLAY button

ENTER button

TIME button

MTS (multichannel TV sound) button

SURROUND button*
(PIP button*)



VTR 1/2/3/MDP (multi disc player) selector

CODE SET button
(Pre-Programmed function)

SLEEP button

POWER button*

A/V WINDOW (audio and video adjusting) buttons

JUMP button

VOL (volume) +/− buttons*

CH (channel) +/− buttons*

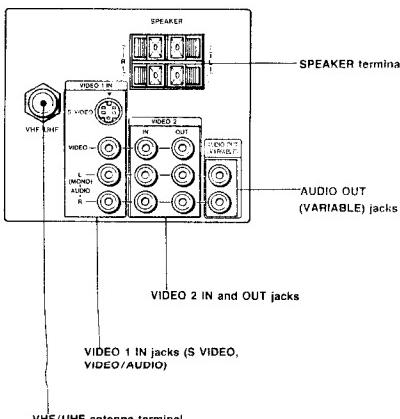
PICTURE +/− buttons

*Buttons with the same function are also located on the TV.

Note: Model KV-27EXR25 also has a PIP button on the TV, instead of a SURROUND button.

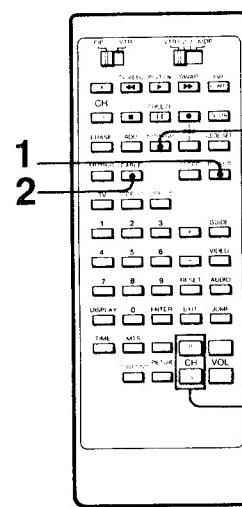
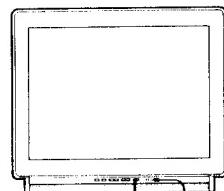
RM-Y104 (Y103)

Rear Panel



1-2. PRESETTING TV CHANNELS

To Preset TV Channels Automatically



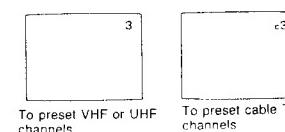
Channels that can be received
on this TV:

VHF: 2 - 13
UHF: 14 - 69
Cable: 1 - 125

- 1** Press POWER on the TV or the remote commander to turn the TV on.



- 2** Press CABLE so that the appropriate mode appears.



If "VIDEO 1" or "VIDEO 2" is displayed on the screen, press the TV/VIDEO button on the TV or the TV button on the remote commander so that a channel number appears.

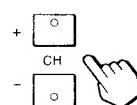
- 3** Press AUTO PGM.



"AUTO PROGRAM" is displayed on the screen and receivable channels (other than the channels already preset) will be preset in numerical sequence. The channels previously preset remain in the TV's memory.

When no more channels can be found, the programming stops and the lowest numbered channel is displayed.

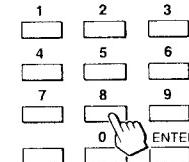
- 4** Press CH +/− to check or view preset channels.



To add channels that could not be preset automatically because their signal strength was too weak, or to erase unnecessary channels, follow the steps in "To Preset Only Desired Channels or to Erase Unnecessary Channels".

To Preset Only Desired Channels or to Erase Unnecessary Channels

- 1** Press the channel number button(s) and then press ENTER to select the channel you want to add or erase.



- 2** To add channels
Press ADD.

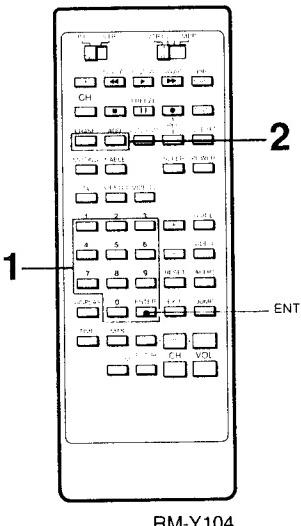


A "+" appears before the number for a moment.
This channel has now been added to the channel scan memory.

To erase channels
Press ERASE.



A "--" appears before the number for a moment.
This channel has now been erased from the channel scan memory.
The next time you press the CH +/- button, this channel will be skipped.
Repeat steps 1 and 2 to add or erase other channels.



CAUTION

When a VHF or UHF channel is erased

The cable TV channel with the same number is also erased, and vice versa.

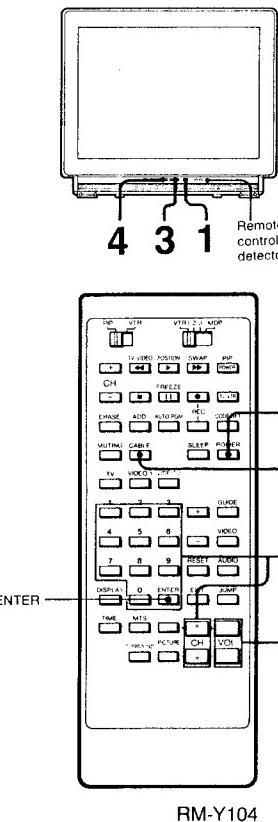
Number on this TV	1	5	6	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Corresponding CATV channel	A-8	A-7	A-6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
31	32	33	34	35	36	37	38	39	93	94	95	96	97	98	99	100	101	102	123	124	125
R	S	T	U	V	W	W+1	W+2	W+3	W+57	W+58	A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	W+82	W+83	W+84

Check with your local cable TV company for more complete information on the available channels.

*This designation of cable TV channels conforms to the EIA/NCTA recommendation.

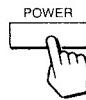
1-3. WATCHING TV PROGRAMS

9

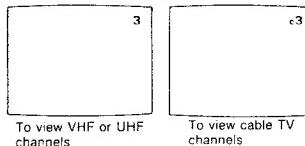
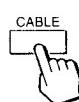


RM-Y104

- 1** Press POWER on the TV or the remote commander to turn the TV on.



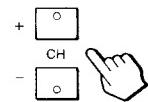
- 2** Press CABLE so that the appropriate mode appears.



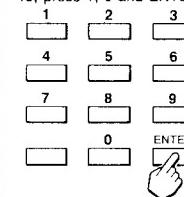
If "VIDEO 1" or "VIDEO 2" is displayed on the screen, press the TV/VIDEO button on the TV or the TV button on the remote commander so that a channel number appears.

- 3** Select a channel in one of the following two ways:

To scan the preset channels* in numerical sequence, press CH +/ -.

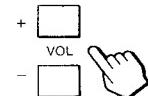


To select a channel directly, press the channel number button(s) and then ENTER. For example, to select channel 10, press 1, 0 and ENTER.

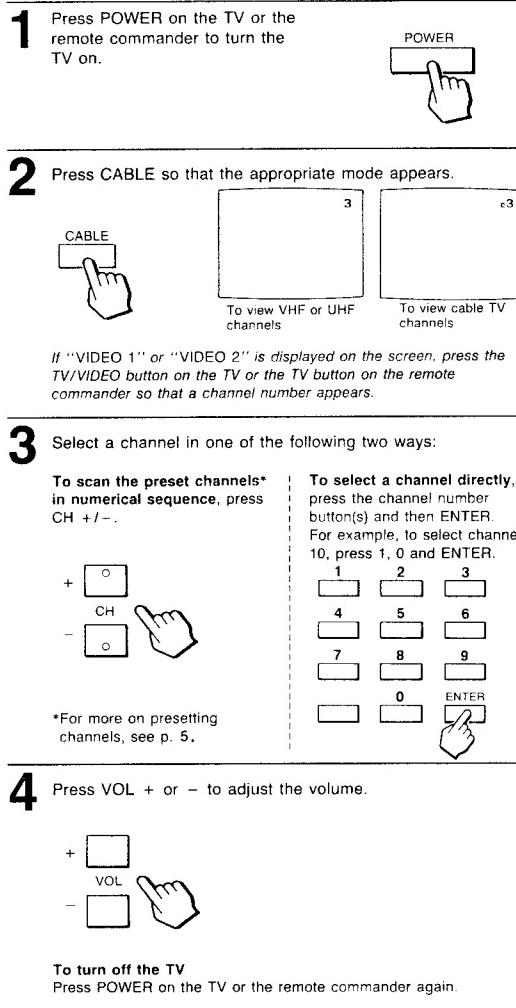


*For more on presetting channels, see p. 5.

- 4** Press VOL + or - to adjust the volume.



To turn off the TV
Press POWER on the TV or the remote commander again.

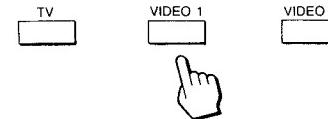


1-4. ADJUSTING PICTURE AND SOUND QUALITY

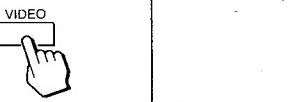
You can set different picture and sound quality levels for each input mode by changing the input mode (TV/VIDEO 1/2) before setting. These settings will be retained even when you turn the TV off.

Adjusting the Picture

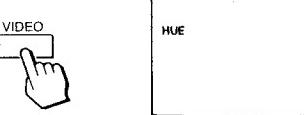
- 1** Select the input mode you want to adjust with the TV/VIDEO 1/2 buttons.



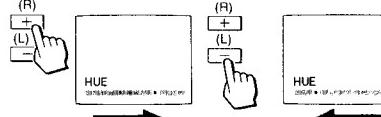
- 2** Press VIDEO.



- 3** Press VIDEO repeatedly until the quality you want to adjust blinks.



- 4** Press + (R) or - (L) to make the adjustment.



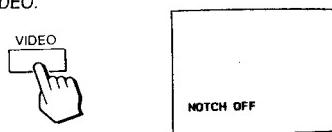
Picture quality	Press - (L) button	Press + (R) button
HUE	Skin tones become purplish	Skin tones become greenish
COLOR	For less color intensity	For more color intensity
BRIGHT	For less brightness	For more brightness
SHARP	For less sharpness	For more sharpness

The display will disappear automatically after a few seconds.

The SHARP Control has no effect with a window picture.
(PIP function — KV-27EXR25 only)

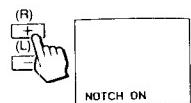
NOTCH filter setting

Press VIDEO.



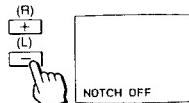
Normally, set to NOTCH OFF.
If dots or stripes appear while you are watching an image from a computer or video source, set to NOTCH ON.

To set NOTCH filter ON.



Press +.

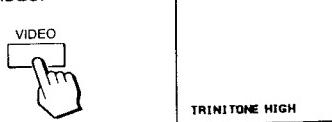
To set NOTCH filter OFF.



Press -.

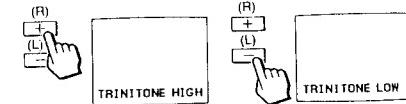
TRINITONE adjustment

Press VIDEO.



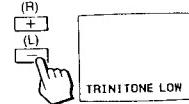
Color picture tubes are usually manufactured with a fixed color temperature (tint) that determines the "warmth" (red tint) or "coollness" (blue tint) of the picture. With Sony's Trinitone feature, you can adjust the picture color to your preference.

For bright white



TRINITONE HIGH
The factory preset whiteness level will be restored.

For soft white



TRINITONE LOW
A touch of red will be added to the white areas.

Picture Contrast adjustment

Press to increase picture contrast with vivid color.



Press to decrease picture contrast with soft color.



Note

The picture contrast level cannot be stored under each input mode.

To restore the factory (mid-level) settings

Press RESET.



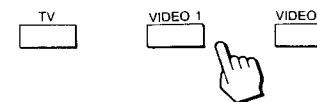
The display will disappear after a few seconds.

To restore the normal picture

Press EXIT.

Adjusting the Sound

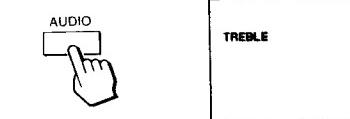
1 Select the input mode you want to adjust with the TV/VIDEO 1/2 buttons.



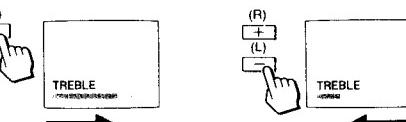
2 Press AUDIO.



3 Press AUDIO repeatedly until the quality you want to adjust blinks.



4 Press + (R) or - (L) to make the adjustment.



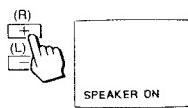
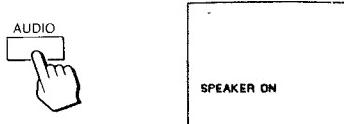
Sound quality	Press - (L) button	Press + (R) button
TREBLE	To decrease treble response	To increase treble response
BASS	To decrease bass response	To increase bass response
BALANCE	To emphasize the left speaker's volume	To emphasize the right speaker's volume

The display will disappear automatically after a few seconds.

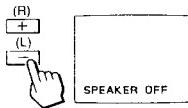
1-5. USING PICTURE-IN-PICTURE (KV-27EXR25 ONLY)

SPEAKER ON

Press AUDIO.



To use the speakers connected to the SPEAKER terminals.



To use an audio system connected to the AUDIO OUT jacks.

To restore the factory (mid-level) settings

Press RESET.



The display will disappear after a few seconds.

To restore the normal picture

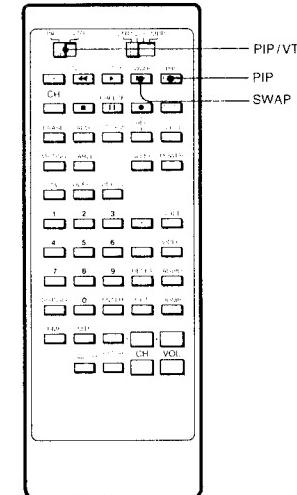
Press EXIT.

Picture-in-Picture controls

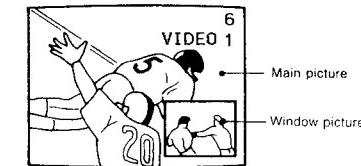
This function is included only with model KV-27EXR25.

Besides the main picture, you can watch a video source simultaneously as a window picture.

For example, use Picture-in-Picture when you want to watch a TV program and also a video source from connected equipment (VCR, video disc player, etc.). If you connect a VCR, you can watch two different TV programs at the same time.



RM-Y104



Note

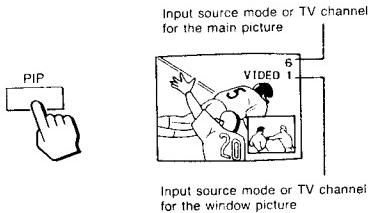
If the main picture is blocked, Picture-in-Picture does not function. Press EXIT to cancel CHANNEL BLOCK.

To display a window picture — PIP

- 1 Set the PIP/VTR selector to PIP.



- 2 Press PIP.



A window picture will appear in the same mode as the last time you used PIP.

Picture-in-Picture also functions when the main picture is in the VIDEO mode.

To make the window picture disappear
Press PIP again.

To scan channels in the window picture
Press CH +/− on the remote commander.

To change the input mode of a window picture

Press TV/VIDEO on the remote commander. Each time you press this button, TV, VIDEO 1 or VIDEO 2 mode will be selected in sequence.

Notes on the sub picture

- You cannot hear the sound of the window picture channel.
- If a window picture is blocked, the "BLOCKED" display will appear on the main screen.

To swap the main and window pictures — SWAP

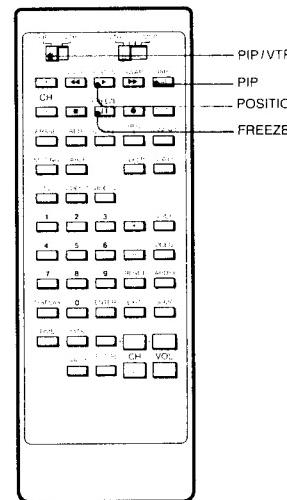
- 1 Set the PIP/VTR selector to PIP.



- 2 Press PIP to display a window picture.



- 3 Press SWAP.



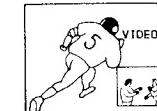
RM-Y104

To change the position of the window picture — POSITION

- 1 Set the PIP/VTR selector to PIP.

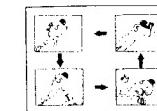


- 2 Press PIP to display a window picture.



- 3 Press POSITION.

Each time POSITION is pressed, the window picture will move counterclockwise on the screen as illustrated.



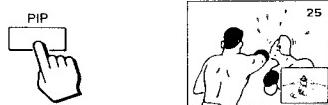
1-6. USING THE UNIVERSAL REMOTE COMMANDER

To freeze a window picture

- 1** Set the PIP/VTR selector to PIP.



- 2** Press PIP to display a window picture.



- 3** Press FREEZE.

The window picture will freeze.

Use this feature when you want to write down the recipe of a cooking program or a displayed toll free number, etc.



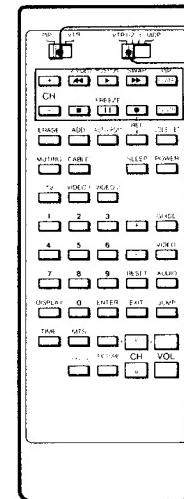
To restore the normal picture
Press FREEZE again.

Note

The broadcast will be progressing normally while the still picture is on the screen.

You can operate other video equipment that has an infrared remote detector with the supplied RM-Y104 or RM-Y103 remote commander.

Operating Sony Video Equipment

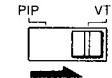


RM-Y104

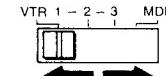
- 1**
2
3

With the supplied remote commander, you can operate Sony video cassette recorders (Beta, 8 mm, VHS) and multi disc players by following the steps below.

- 1** Set the PIP/VTR selector to VTR.
(KV-27EXR25 only)



- 2** Set the VTR 1/2/3/MDP selector according to the video equipment you want to operate.



If you want to operate a:	set to:
Beta, ED Beta VCR	VTR 1
8 mm VCR	VTR 2
VHS VCR	VTR 3
Video disc player	MDP

- 3** Use the video operating buttons to operate video equipment.

Operating a Video Cassette Recorder

- To record Press ●.
- To play Press ▶.
- To stop Press ■.
- To fast forward Press ▶▶.
- To rewind the tape Press ◀◀.
- To freeze a picture Press ■■.

To resume normal playback, press again.

- To search the picture Keep pressing ▶ or ◀ during playback.
- To resume normal playback, release the button.

Operating a Video Disc Player

- To play Press ▶.
- To stop Press ■.
- To freeze a picture Press ■■.

To resume normal playback, press again.

*This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the projector will go into the standby mode if ■■ is pressed.

- To search the picture Keep pressing ▶ or ◀ during playback.
- To resume normal playback, release the button.

Caution

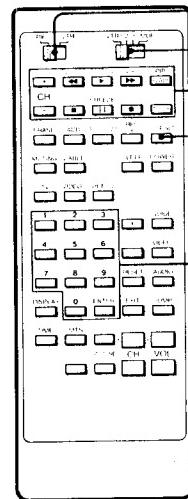
When you replace the batteries, do it within approximately 30 minutes. Otherwise, Sony settings and all of the settings you made under the Pre-Programmed function may be erased.

Notes

- If you use only Sony video equipment with your TV, you can operate that equipment following the steps on this page only. However, if you use other makers' video equipment as well as Sony's, please follow the steps instead (Pre-Programmed function).
- If the video equipment does not have a certain function, the corresponding button on this remote commander will not operate.

1-7. USING THE GUIDE FUNCTION (on-screen menu)

Operating Non-Sony or Sony Video Equipment (Pre-Programmed Function)



RM-Y104

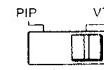
Manufacturers and Code Numbers (VCR)

MANUFACTURER	CODE
SONY	01, 02, 03
EMERSON	22, 28, 30, 33
SHARP	13, 14
RCA	07, 08
HITACHI	07
FUNAI	29
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
PANASONIC	05
GENERAL ELECTRIC	05
JVC	16
GOLDSTAR	25
TOSHIBA	20, 21
SYLVANIA	05, 06, 09
ZENITH	17
SANYO	11, 15
QUASAR	05
NEC	16, 23, 31
PHILIPS	05, 06, 09
TOTE VISION	25
SAMSUNG	24, 32
SYMPHONIC	29
FISHER	10, 11, 12
TEKNIKA	28, 29
CANON	05
PHILCO	05, 06
SCOTT	21
MULTITECH	29

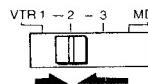
With the supplied remote commander, you can operate non-Sony or Sony video equipment as shown below.

Example: To operate an RCA video cassette recorder when you set the VTR 1/2/3/MDP selector to VTR 2.

- 1** Set the PIP/VTR selector to VTR.
(KV-27EXR25 only)



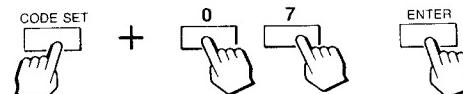
- 2** Set the VTR 1/2/3/MDP selector to VTR 2.



You can use the VTR/1/2/3 settings, but not MDP. By employing these three settings, you can use your remote commander to operate up to 3 pieces of equipment.

To use a Sony VTR, set the selector to a position not being used for your Sony video equipment.

- 3** While pressing CODE SET, press the number buttons for your manufacturer's code number (see chart). For RCA, press 0, 7 and ENTER.



Now you can operate the video equipment with the supplied remote commander.

Notes

- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- If you enter a new code number, the code number previously entered at that setting will be erased.

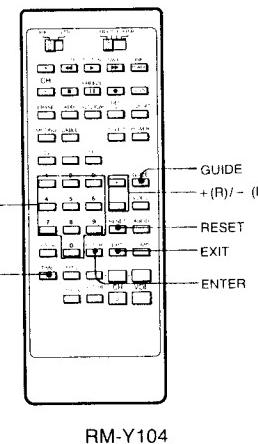
- 4** Use the video operating buttons to operate video equipment.

The GUIDE function calls up the on-screen menu, giving instructions on how to set the current time, TIMER and CHANNEL BLOCK.

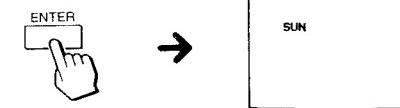
Setting the Clock

Example: To set the clock to 5:30 PM, Monday.

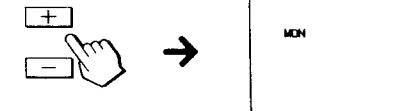
- 1** Press GUIDE.
Press repeatedly until the "CURRENT TIME SET" display turns red.



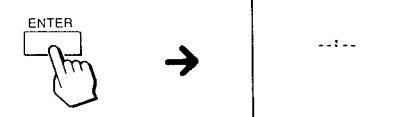
- 2** Press ENTER.



- 3** Press +/− until the desired day of the week appears.

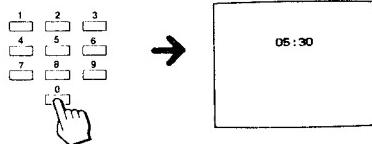


- 4** Press ENTER.
If the time is already set, the current set time will appear.
To clear these numbers, press any number.

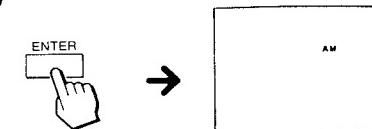


- All settings will be erased from the TV's memory if the TV is unplugged, or if a power failure occurs.
- The ON/OFF TIMER and CHANNEL BLOCK will operate only if the clock is set correctly.

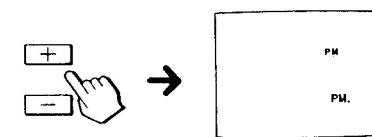
- 5** Press 0 — 9 to set the desired time.
(For 5:30, press 0, 5, 3, 0.)



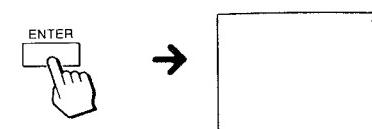
- 6** Press ENTER.



- 7** Press +/ - to set AM or PM.



- 8** Press ENTER.
*The moment ENTER is pressed, the clock will start.
A display will appear indicating that the clock has been set, and will disappear after about 5 seconds.*



To restore the normal picture
Press EXIT.

To clear the current time setting
Display the "CURRENT TIME SET" page and press RESET, then EXIT.

To reset the setting
Display the "CURRENT TIME SET" page and press RESET, then repeat steps 3 to 8.

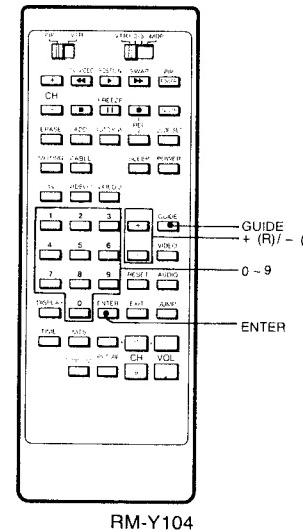
To display the current time
Press TIME.

Notes

- The internal clock of this TV operates on a 12-hour cycle. If a 24-hour cycle number is entered, it will be cleared when ENTER is pressed.

12:00 AM stands for midnight.
12:00 PM stands for noon.

- The internal clock returns to the factory-set condition if the TV is unplugged, or if a power failure occurs. Reset the current time.



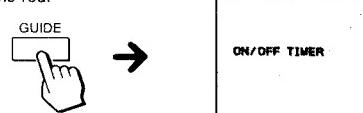
Setting the ON/OFF Timer

Set the ON/OFF timer to make the program of your choice appear on the screen at the chosen time.

Example: Set the timer to turn on the TV to channel 8 at 1:00 PM, for 3 hours every Monday through Friday.

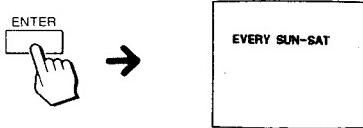
- 1** Press GUIDE.

Press repeatedly until the "ON/OFF TIMER" display turns red.

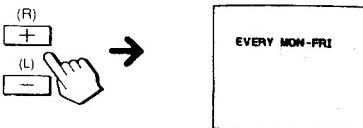


- 2** Press ENTER.

*Instructions for selecting the day appear.
(If the clock has not been set, "PLEASE SET CURRENT TIME FIRST" appears on the screen. Go back to page 11 — Setting the Clock.)*

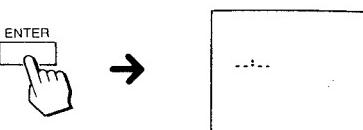


- 3** Press +/ - until the desired day of the week appears.

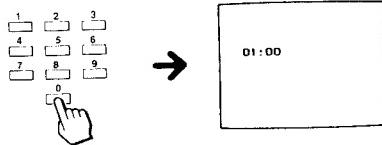


- 4** Press ENTER.

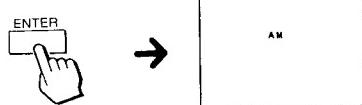
Instructions for setting the time appear.



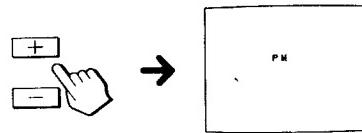
5 Press 0 – 9 to set the desired time.
(For 1:00, press 0, 1, 0, 0.)



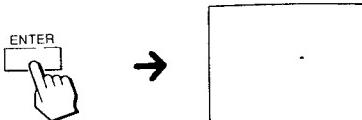
6 Press ENTER.



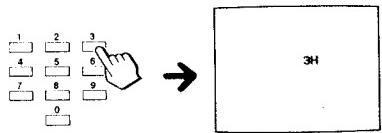
7 Press +/– to set AM or PM.



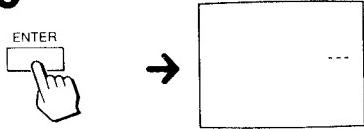
8 Press ENTER.



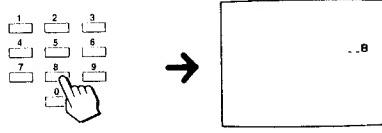
9 Press a channel number button to set the duration. (Up to 9 hours can be set.)



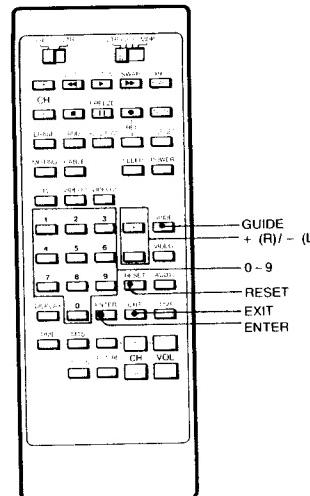
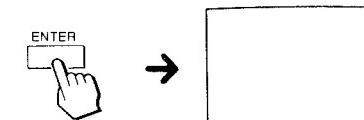
10 Press ENTER.



11 Press 0 – 9 to set the desired channel number.



12 Press ENTER.
The ON/OFF timer is set.
The TIMER indicator on the TV lights up.



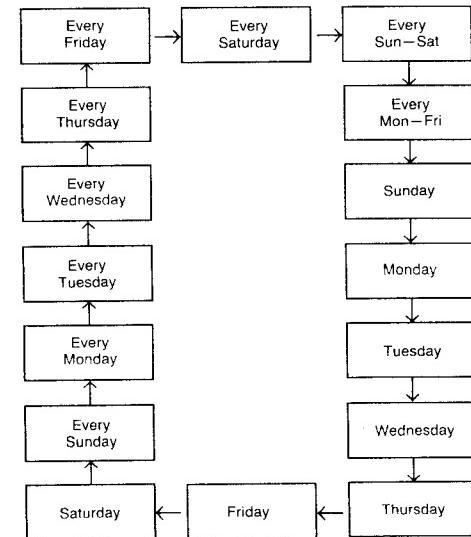
To restore the normal picture
Press EXIT.

To clear the setting
Display the "ON/OFF TIMER" page and press RESET, then EXIT.

To reset the setting
Display the "ON/OFF TIMER" page and press RESET, then repeat steps 3 to 12.
The "TIMER WILL BE OFF" indication will appear one minute before the timer goes off.

Notes

- Power back-up is not available. Both the clock and timer settings will be erased if a power failure occurs. Reset the current time, then set the timer.
- The selectable days will appear in the following order when you press [+]:



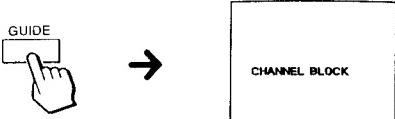
1-8. ENJOYING OTHER USEFUL FEATURES

Setting CHANNEL BLOCK

CHANNEL BLOCK prevents a channel from appearing on the screen during the preset time. We suggest you use this function to prevent children from watching undesirable programs.

Example: Set CHANNEL BLOCK at 4:00 PM (for 1 hour), every Saturday, on channel 12.

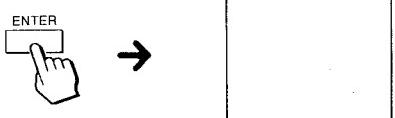
- 1** Press GUIDE.
Press repeatedly until the "CHANNEL BLOCK" display turns red.



Steps 2 ~ 11: Same as Setting the ON/OFF Timer.
(See page 12.)

- 12** Press ENTER.
CHANNEL BLOCK is set.

At the preset time, the picture of the selected channel will be blocked from view and the sound will be muted. A red "BLOCKED" display will appear on the screen while the channel is blocked.



To restore the normal picture
Press EXIT.

To clear the setting
Display the "CHANNEL BLOCK" page and press RESET, then EXIT.

To reset the setting
Display the "CHANNEL BLOCK" page and repeat the steps from the beginning.

Muting the sound — MUTING

1. Press MUTING.
2. The display "MUTING" will appear on the screen.
3. To restore the sound, press MUTING again, or press VOL +.

Keeping the channel displayed — DISPLAY

To DISPLAY the channel: Press DISPLAY
All the current displays will appear for a few seconds, then disappear.
The channel display will remain on the screen.

To CANCEL the display: Press DISPLAY again
The channel display will disappear.

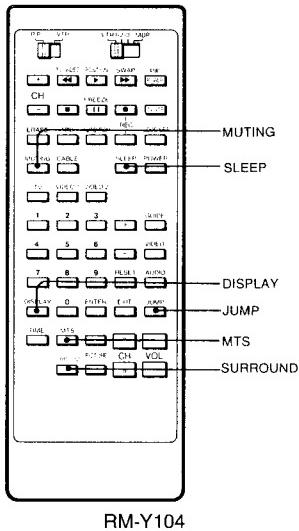
Receiving a Multichannel TV Sound program — MTS

Each time you press MTS, the MAIN, SAP (Second Audio Program) and MONO modes are selected in sequence. The display (in green) for each mode will appear on the screen for a few seconds.
(NOTE: During SAP modes, the sound of non-SAP programs will be muted.)

TO LISTEN TO STEREO SOUND:

1. Press MTS to select the MAIN mode.
2. The MAIN display will appear on screen.
3. The STEREO indicator lamp on the TV will light up whenever a stereo broadcast is received.

NOTE: A weak incoming signal may cause excessive noise with some stereo broadcasts.
Switch to MONO mode to eliminate this noise.



RM-Y104

Listening to surround sound — SURROUND

TO SET: (Gives a surround sound effect to stereo broadcasts and external stereo sources)

1. Press SURROUND.
2. The "|||---|||" display will appear on the screen for a few seconds.

TO CANCEL: Press SURROUND again. The "|||---|||" display will appear for a few seconds.

Using the sleep timer — SLEEP

TO SET: (Turns TV off automatically about 1 hour after setting)

1. Press SLEEP.
2. A green "SLEEP ON" display appears for a few seconds.
3. A red "SLEEP" display will appear 1 minute before the TV shuts off.

TO CANCEL:

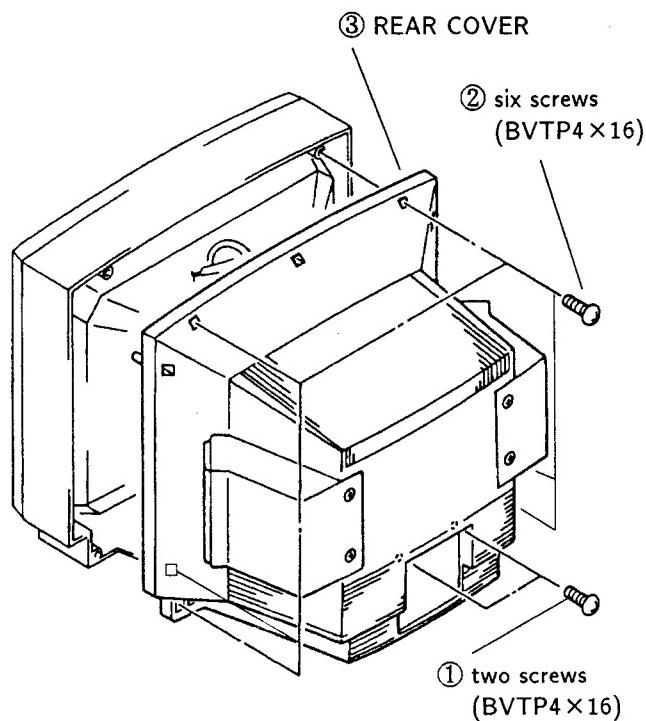
Press SLEEP again.
A green "SLEEP OFF" display appears for a few seconds.
OR
Turn the TV off. The sleep timer setting will be cancelled.

Switching quickly between 2 channels — JUMP

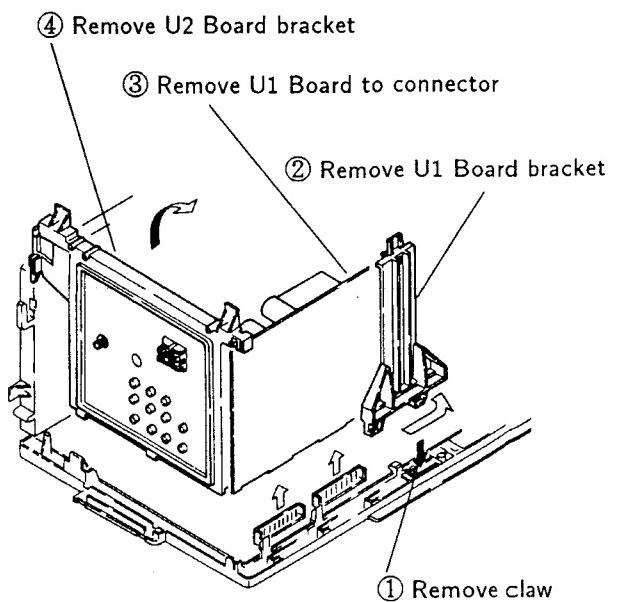
Each time you press the JUMP button, the channel which appeared on the screen immediately before is recalled. Use this feature to keep track of two programs alternately.

SECTION 2 DISASSEMBLY

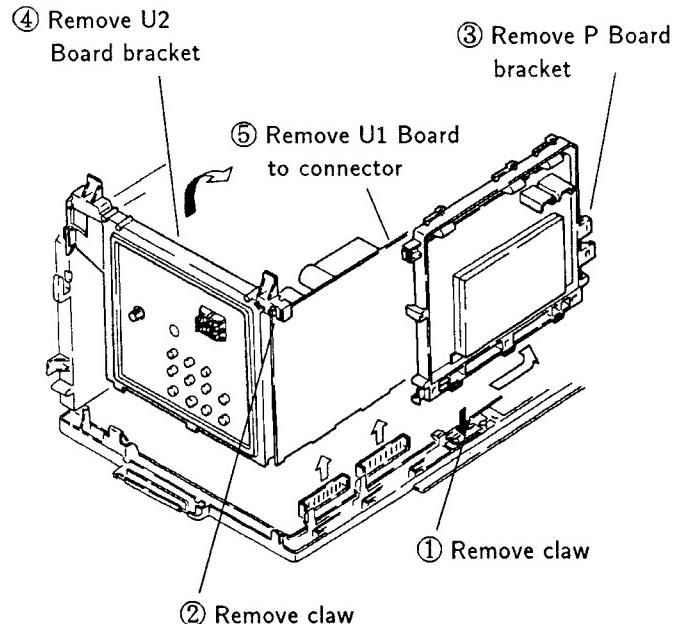
2-1. REAR COVER REMOVAL



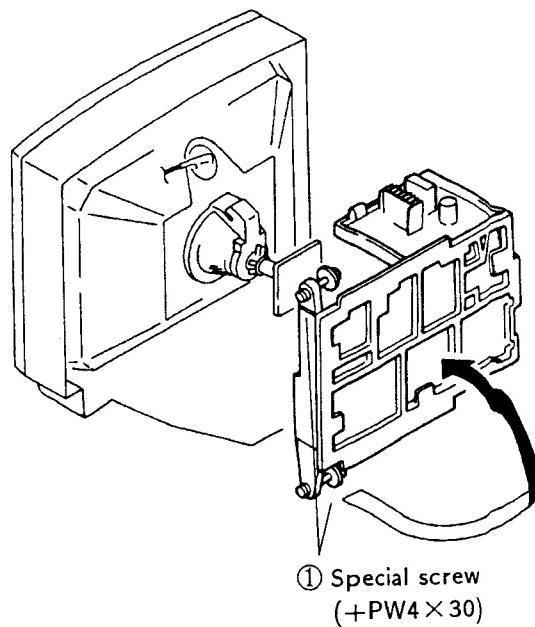
2-2. U1 BOARD AND U2 BOARD REMOVAL (KV-27EXR20)



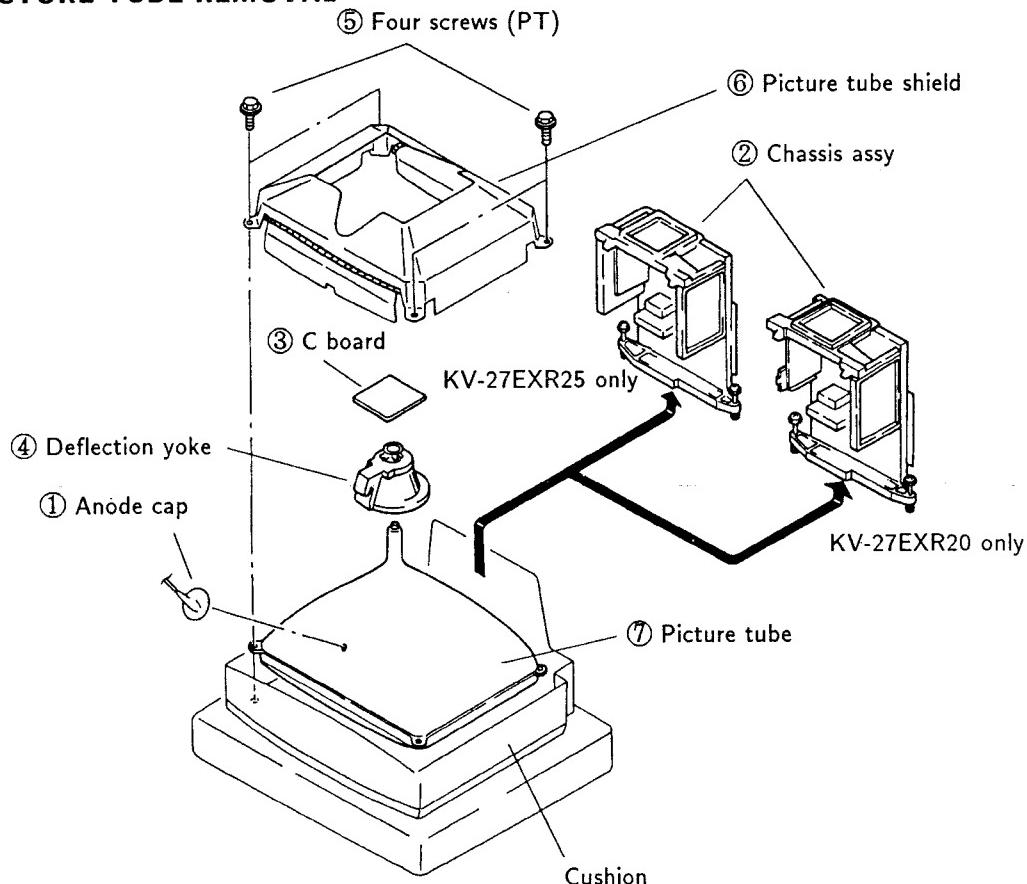
2-3. U1 BOARD, U2 BOARD AND P BOARD REMOVAL (KV-27EXR25)



2-4. SERVICE POSITION



2-5. PICTURE TUBE REMOVAL



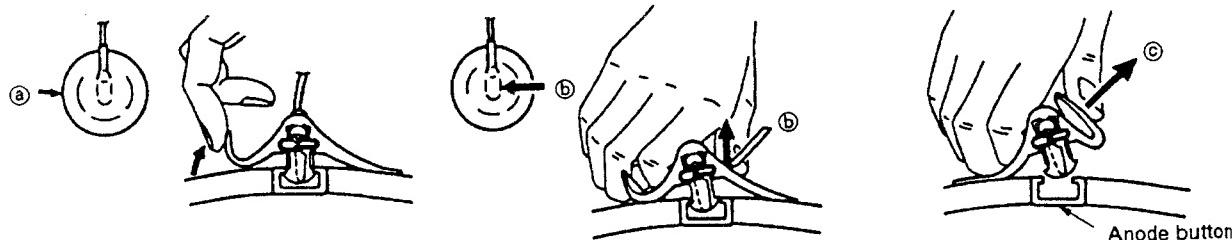
"CAUTION"

TO AVOID AN ELECTRIC SHOCK FROM CHARGED HIGH VOLTAGE OF PICTURE TUBE.

• REMOVAL OF ANODE-CAP

Short circuit the anode of the picture tube and the anode cap to the metal chassis, picture tube shield or carbon painted on the picture tube, after removing the anode.

• REMOVING PROCEDURES



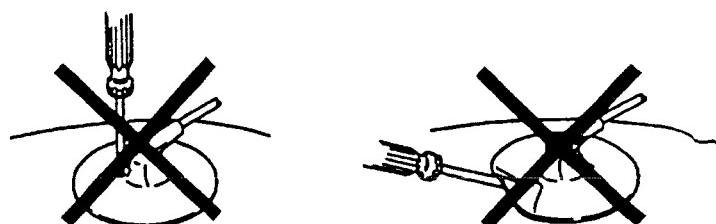
① Turn up one side of the rubber cap in the direction indicated by the arrow ②.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⑤.

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⑥.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.



SECTION 3 SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted:

PICTURE control To 80% (Full)

BRIGHTNESS control RESET position

Perform the adjustments in order as follows:

- Beam Landing
- Convergence
- Focus
- White Balance

Note: Test Equipment Required.

- Pattern Generator
- Degausser
- Digital multimeter

Preparation:

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.

3-1. BEAM LANDING

- Input a raster signal with the pattern generator.
- Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Fig.2.
- Turn the raster signal of the pattern generator to green.
- Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are at the sides evenly. (Fig.3)
- Move the deflection yoke forward, and adjust so that entire screen becomes green. (Fig.1)
- Switch over the raster signal to red and blue and confirm the condition.
- When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
- When landing at the corners is not right, adjust by using the disk magnets. (Fig.4)

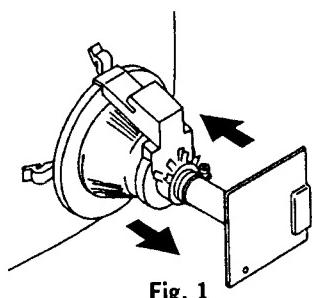


Fig. 1

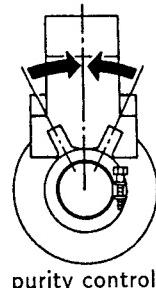


Fig. 2

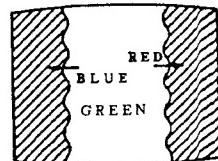


Fig. 3

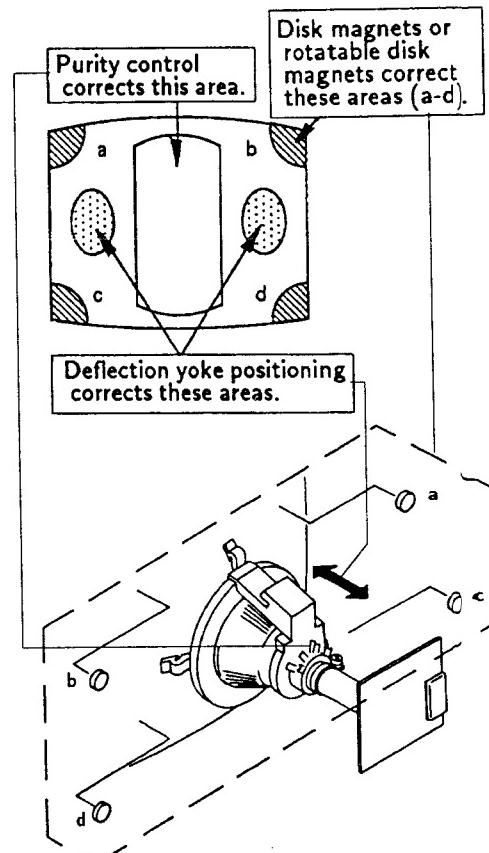


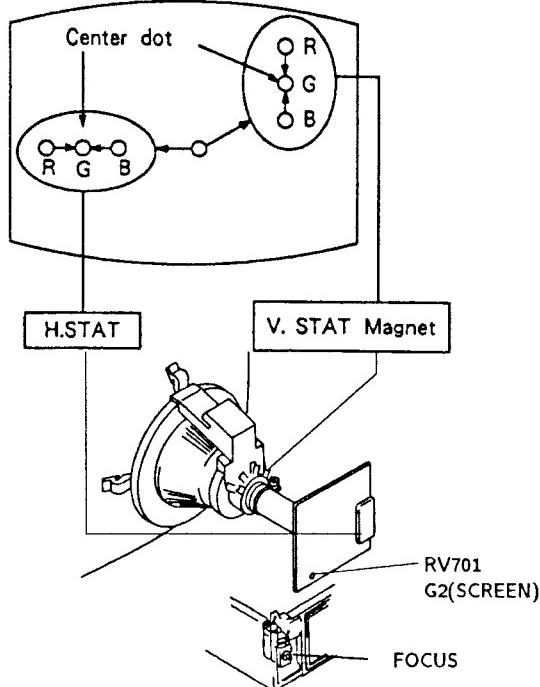
Fig. 4

3-2. CONVERGENCE

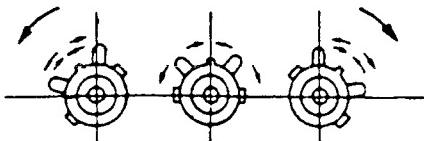
Preparation

- Before starting, perform FOCUS, H.SIZE, V.LIN and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in dot pattern.

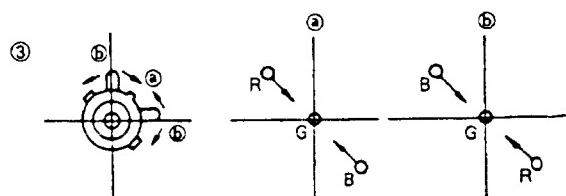
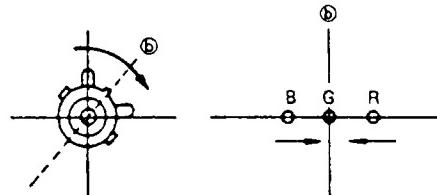
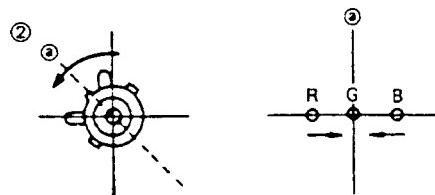
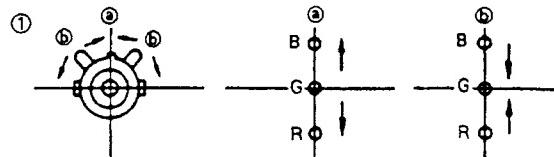
(1) Horizontal and Vertical Static Convergence



- Adjust H.STAT VR to converge red, green and blue dots the in center of the screen. (Horizontal movement)
- Adjust V.STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
- If the red, green and blue dots do not converge in the center of the screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



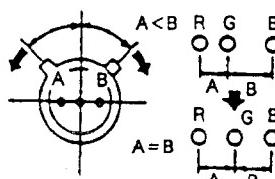
- When the V.STAT magnet is moved in the direction of arrow ② and ⑤, red, green and blue dots move as shown below.



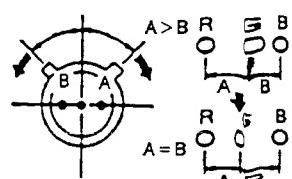
If the blue dot do not converge with red and green dots, perform following steps.

- HMC and VMC correction for BMC (Hexapole) Magnet
- HMC (Horizontal Mis-convergence) correction and motion of the Electron Beam with the BMC Magnet.

HMC correction (A)

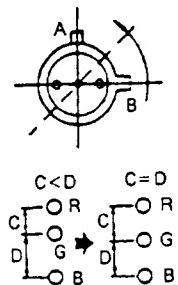


HMC correction (B)

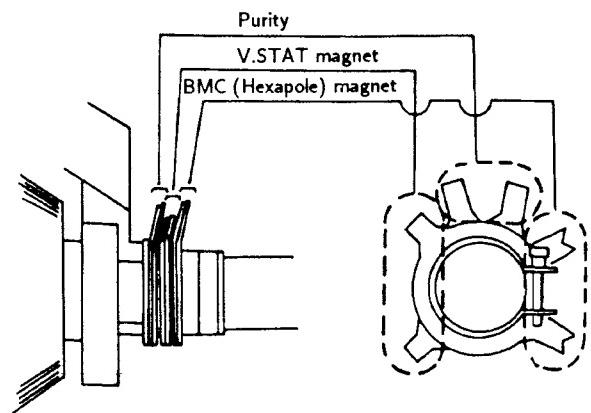
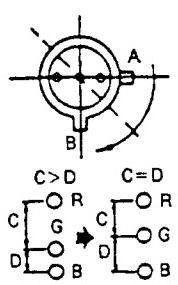


2. VMC (Vertical Mis-convergence) correction and motion of the Electron Beam with the BMC Magnet.

VMC correction (A)



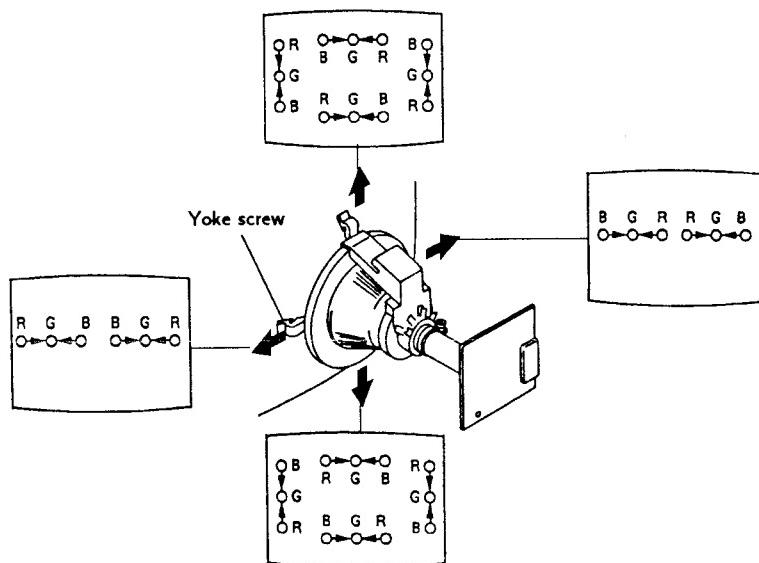
VMC correction (B)



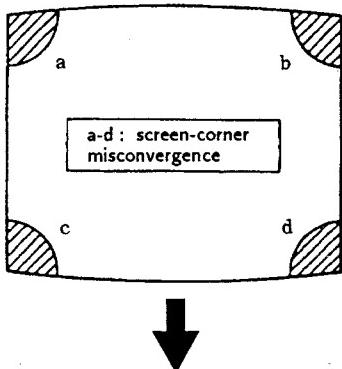
(2) Dynamic Convergence Adjustment

Preparation :

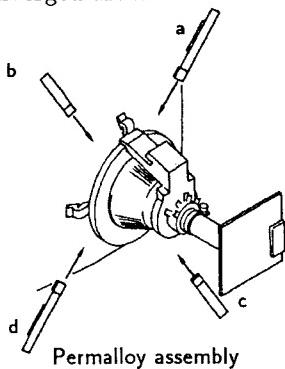
- Before starting perform Horizontal and Vertical Static convergence adjustment.
1. Slightly loosen deflection yoke screw.
 2. Remove deflection yoke spacers.
 3. Move the deflection yoke for best convergence as shown below.
 4. Tighten the deflection yoke screw.
 5. Install the deflection yoke spacers.



(4) Screen-corner Convergence



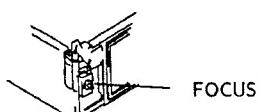
Affix a Permalloy ass'y corresponding to the misconverged areas.



3-3. FOCUS

1. Tune in an off-air signal.
2. PICTURE → control to 80%.
3. Adjust the focus VR on A board so that the focus at the center of the screen is optimum.

(A magenta ring will appear if the focus is adjusted only in the center of the screen.
Adjust evenly throughout the entire screen.)



3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT(RV701)

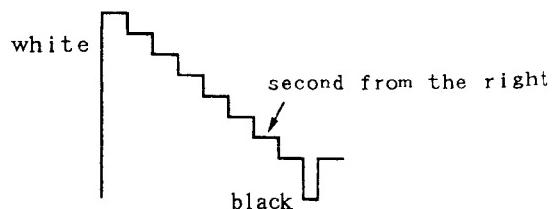
- 1) Set the PICTURE and BRIGHTNESS to normal.
- 2) Confirm G1 voltage is within $30.0 \pm 5V$.
- 3) Apply DC voltage of 180V to the cathodes of R, G and B from DC stabilized power source.
- 4) While watching the picture, adjust the G2 control (RV701) to the just the retrace line disappears.
(Using the Remote Commander)

2. WHITE BALANCE ADJUSTMENTS

- 1) Set to service mode.
- 2) Press [VIDEO] → [RESET] to normal and if necessaries "TRINITONE" set to "LOW" by [+] or [-].
- 3) Input an entire white signal.
- 4) Set the PICTURE to minimum.
- 5) Select S BRT with [1] and [4], and then set the level to minimum with [3] and [6].
- 6) Select G CUT and B CUT with [1] and [4].
And adjust the level with [3] and [6] for the best white balance.
- 7) Set the PICTURE to maximum.
- 8) Select G AMP and B AMP with 1 and 4, and adjust the level with [3] and [6] for the best white balance.
- 9) Write into the memory by pressing [MUTING] → then [ENTER].

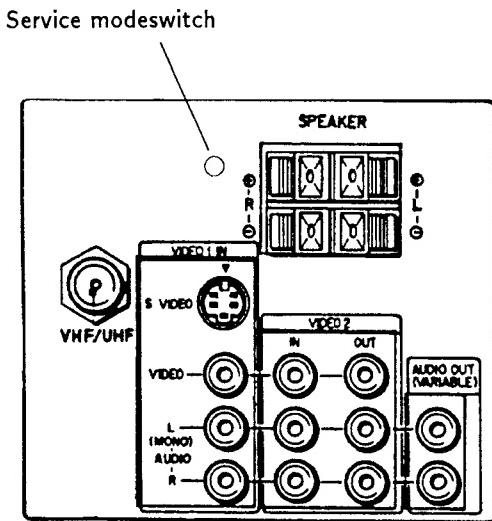
3. SUB BRIGHT ADJUSTMENT

- 1) Set to service mode.
- 2) Input a staircase signal of black and white from the pattern generator.
- 3) BRIGHTNESS ... RESET
PICTURE minimum
- 4) Select S BRT with [1] and [4], and adjust SUB BRIGHT level with [3] and [6] so that the stripe second from the right is dimly lit.

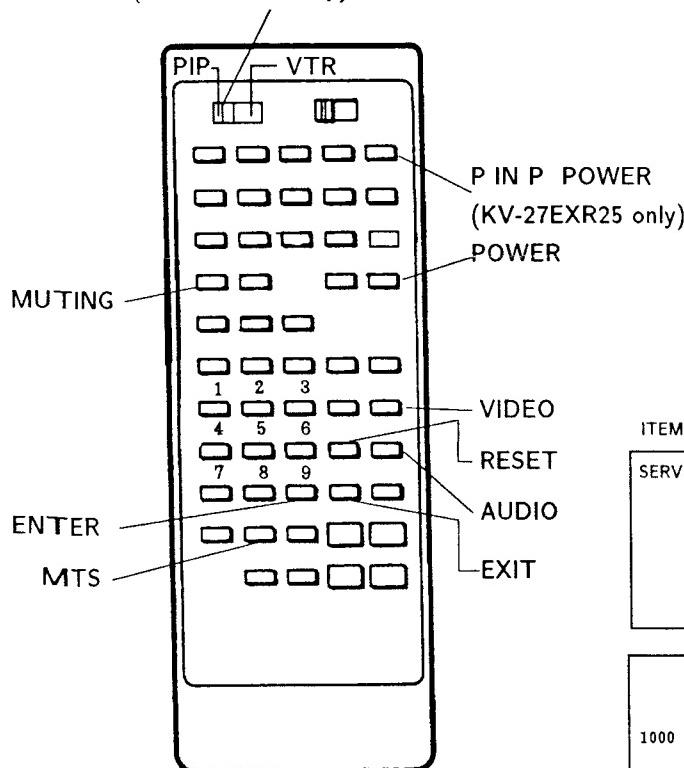


a. METHOD OF SETTING THE SERVICE MODE

Press **POWER** button on the Remote Commander while pressing switch on the rear of the set.

**b. ADJUST BUTTONS AND INDICATOR**

(KV-27EXR25 only)

**c. AN ITEM OF ADJUSTMENT**

ITEM	NAME REGISTER	
GAMP	VP	GREEN AMP.
BAMP	VP	BLUE AMP.
GCUT	VP	GREEN CUT OFF.
BCUT	VP	BLUE CUT OFF
SBRT	VP	BRIGHT

d. METHOD OF CANCELLATION FROM SERVICE MODE

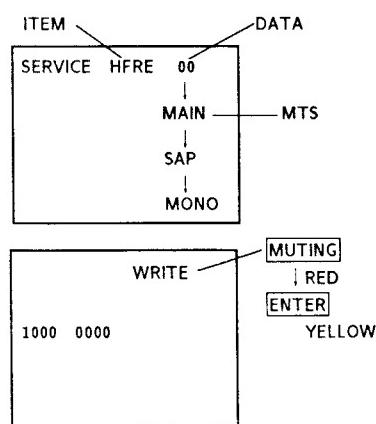
Set the standby condition (Press **POWER** button on the commander) in the next place, press **POWER** button again, hereupon it becomes TV mode.

e. METHOD OF WRITE FOR MEMORY

- 1) Set to Service Mode.
- 2) Press **1** (UP) and **4** (DOWN), select an item of adjustments.
- 3) Press **MUTING** button indicate WRITE (RED) on screen.
- 4) Press **ENTER** button to write for memory. (At this time WRITE (YELLOW) is indicated on screen.)

f. MEMORY WRITE CONFIRMATION METHOD

- 1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
- 2) Turn the power switch ON and set to Service Mode.
- 3) Call the adjusted items again, confirm they were adjusted.



SECTION 4 SAFETY RELATED ADJUSTMENTS

Note: Test Equipment Required.

1. Ammeter
2. DC Power Supply
3. Digital multimeter
4. Audio OSC
5. Valiable auto-transformer

A BOARD AND G BOARD

R559 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with on the schematic diagram).

PM501,Q608,Q607,R629,R628,R627,R559

[1]

1. Preparation before confirmation

- 1) Remove R675 on the G board and connect a variable resistor (RV1: about $10k\Omega$) between pin ① of IC653 and B+ line.
- 2) Supply 120 ± 2.0 V AC to with variable auto-transformer.

2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and input an entirely white signals and adjust ABL current to $1650 \pm 80 \mu A$ with PICTURE and BRIGHT etc controls.
- 2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 143.5V DC whereby the raster disappears during operation of hold-down circuit.

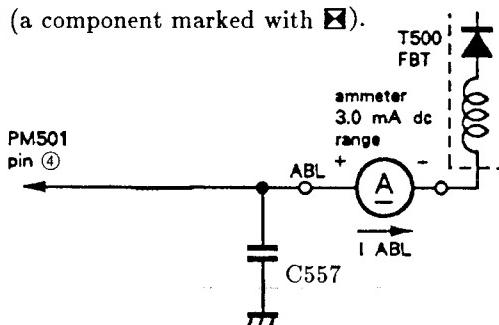
NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- 3) Turn the POWER switch ON, and input a dot signals and adjust ABL current to $150 \pm 50 \mu A$ with PICTURE and BRIGHT etc controls.
- 4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 146.5V DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R559 (a component marked with).



A BOARD AND G BOARD **R570 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS**

The following adjustments should always be performed when replacing the following components (marked with on the schematic diagram).

A BOARD: PM501, Q608, Q607, D531, C545, R570, R591, R628, R627, T500

G BOARD: IC653, R675,

[2]

1. Preparation before confirmation

- 1) Turn the POWER switch ON, and input an entirely white signals and set the PICTURE and BRIGHT controls to maximum.
- 2) Confirm that voltage of the check terminal of TP-85 is more than 108V DC when the set is operating normally with 120.0 ± 2.0 V AC supply.

2. Hold-down operation confirmation

- 1) Turn the POWER switch ON, and input an entirely white signals and adjust ABL current to 1650 ± 80 μ A with PICTURE and BRIGHT etc controls.
- 2) Apply DC voltage of over 130V DC gradually to the check terminal of TP85 via 1SS119 from the DC stabilized power source.

Confirm that the minimum voltage is less than 137.5V DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the Hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- 3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to 150 ± 50 μ A with PICTURE and BRIGHT etc controls.
- 4) Apply DC voltage of over 130V gradually to the check terminal of TP85 via 1SS119 from the DC stabilized power source.

Confirm that the minimum voltage is less than 138.5V DC whereby the raster disappears during operation of hold-down circuit.

NOTE: When the Hold-down circuit starts operating, switch OFF the POWER of the set immediately.

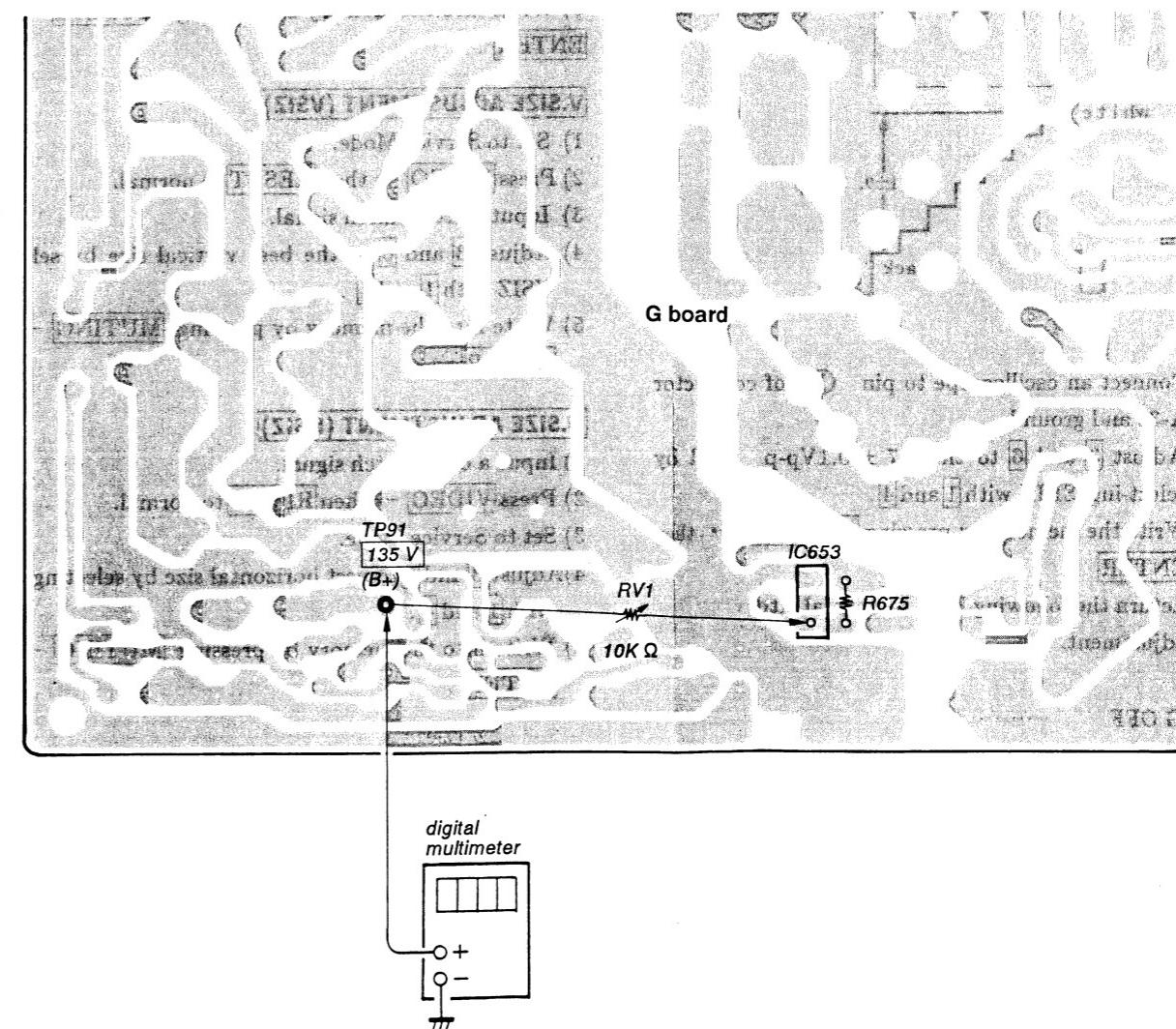
3. Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R570 carbon 1/4w (a component marked with).

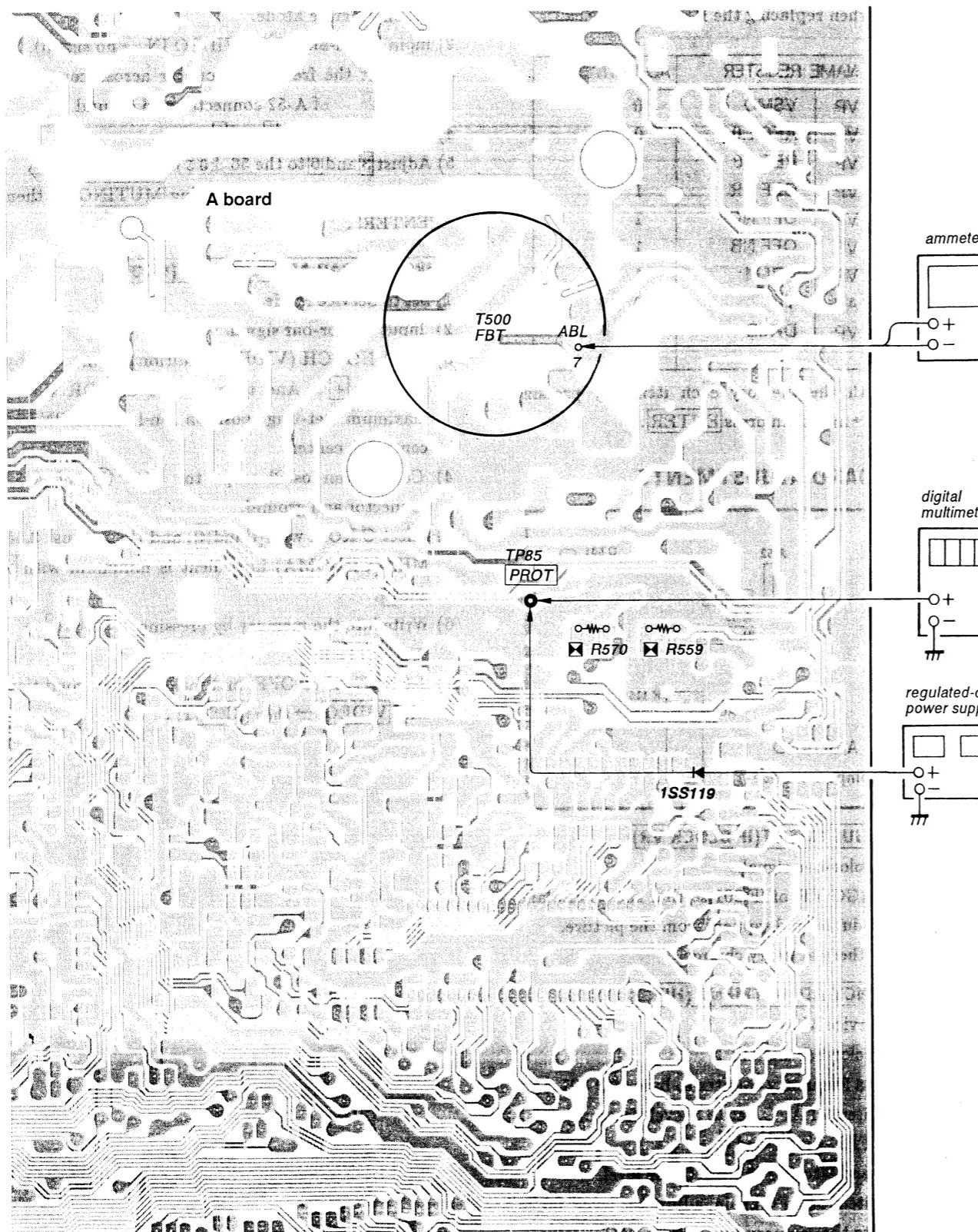
G BOARD**B+ VOLTAGE CONFIRMATION**

The following adjustments should always be performed when replacing IC653 and R675.

- 1) Supply 130 ± 1.0 V AC to with variable autotransformer.
- 2) Input an entirely monoscope signal.
- 3) Set the PICTURE control and the BRIGHT controls in to initial reset.
- 4) Confirm the voltage of TP91 is less than 137.0V DC.
- 5) If step 4) is not satisfied, replace IC653 and R675 repeat above steps.



SECTION 5 CIRCUIT ADJUSTMENTS



5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

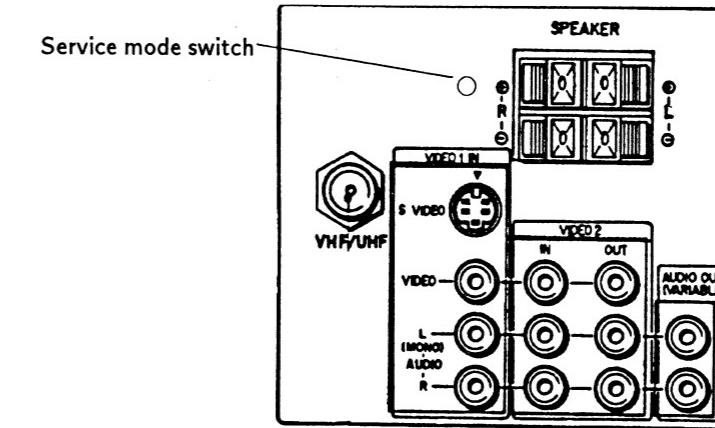
Use of Remote Commander (RM-Y 103,RM-Y 104) can be performed circuit adjustments about this model.

1. METHOD OF SETTING THE SERVICE MODE

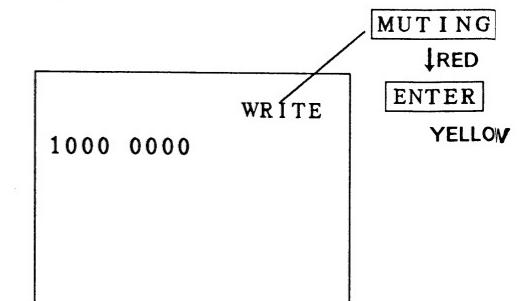
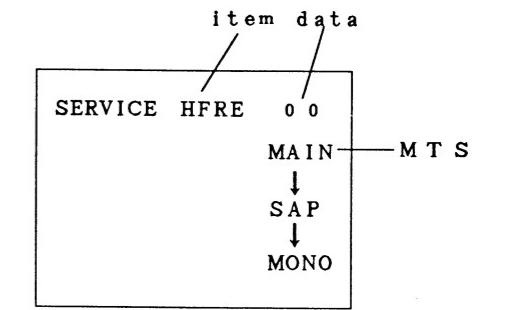
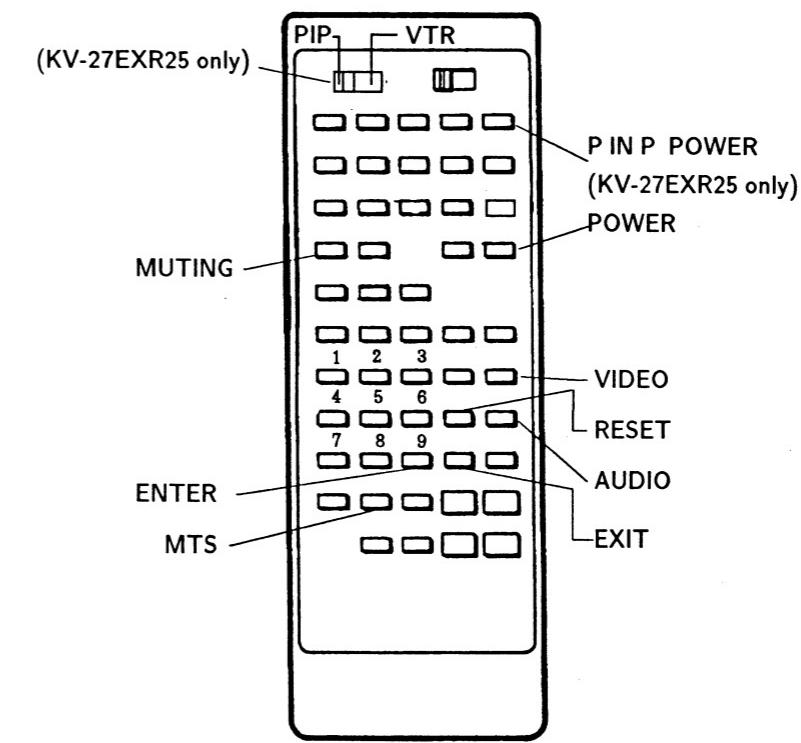
- 1) Press **POWER** button on the Remote Commander while pressing switch on the rear of the set.

NOTE : Test Equipment Required.

1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC



2. ADJUST BUTTONS AND INDICATOR



3. AN ITEM OF ADJUSTMENT

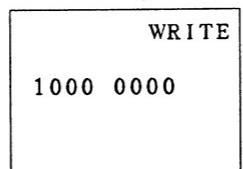
ITEM	REFERENCE DATA	NAME REGIST
HFRE	44	VP H-FREQUENCE 1
VFRE	09	VP V-FREQUENCE 1
VPOS	10	VP V-SHIFT
VSIZ	1 D	VP V-SIZE
VLIN	07	VP V-LINEARITY
VSCO	08	VP S-CORRECTION
HPOS	07	VP H-PHASE
HSIZ	11	VP H-SIZE
PAMP	0 F	VP PIN AMP.
CPIN	04	VP CORNER PIN
PPHA	07	VP PIN PHASE
VCOM	02	VP V-COMP
GAMP	17	VP GREEN AMP.
BAMP	18	VP BLUE AMP.
GCUT	0 D	VP GREEN CUT OFF.
BCUT	09	VP BLUE CUT OFF
CROM	1 B	VP CHROMA TRAP
SPIX	33	VP PICTURE
SHUE	23	VP HUE
SCOL	1 C	VP COLOR
SBRT	3 F	VP BRIGHT
RGBP	1 E	VP RGB PICTURE
MPX	08	AP ATT
FILO	1 B	AP 11
DEEM	07	AP 12
STEV	21	AP OSC 1
SAPV	1 F	AP OSC 2
PILO	08	AP PILOT
SEP	1 B	AP WIDE BAND
VD	0 A	AP SPECTRAL
LVOL	00	AP VOLUME-L
RVOL	00	AP VOLUME-R
SHAR	07	VP SHARPNESS
DISP	37	VP PWM OUTPUT

4. METHOD OF CANCELLATION FROM SERVICE**MODE**

Set the standby condition (Press **POWER** button on the commander) in the next place, press **POWER** button again, hereupon it becomes TV mode.

5. METHOD OF WRITE FOR MEMORY

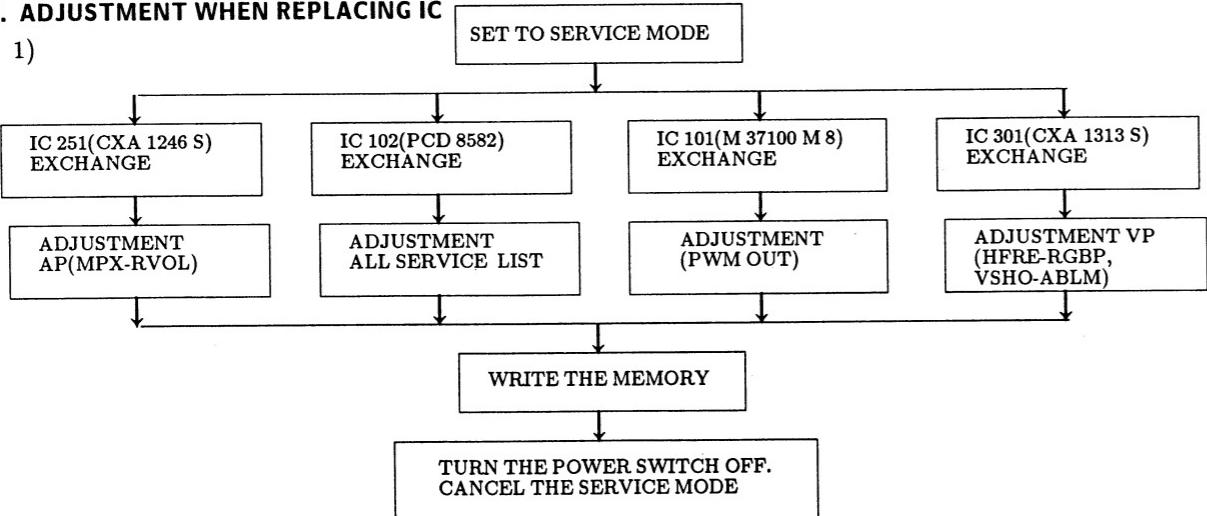
- 1) Set to Service Mode.
- 2) Press **1** (UP) and **4** (DOWN), select an item of adjustments.
- 3) Press **MUTING** button indicate **WRITE** (RED) on screen.
- 4) Press **ENTER** button to write for memory. (At this time **WRITE** (YELLOW) is indicated on screen.)

6. MEMORY WRITE CONFIRMATION METHOD

- 1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
- 2) Turn the power switch ON and set to Service Mode.
- 3) Call the adjusted items again, confirm they were adjusted.

7. ADJUSTMENT WHEN REPLACING IC

1)

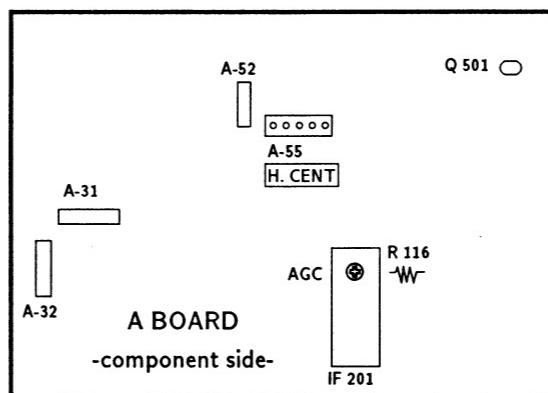


NOTE : If service mode is canceled before writing into memory, the adjustment data is not recorded.
Please write into memory, after adjustment.

- 2) The following initial setting should always be performed when replacing the IC 102 (PCD 8582).

ITEM	NAME REGISTER	ADJUSTMENT
VSOM	VP VSMO	0
AFC	VP AFC 1.0	0
REF	VP REF 1.0	2
ROFF	VP OFF NR	1
GOFF	VP OFF NG	1
BOFF	VP OFF NB	1
ABLM	VP ABLM	1
TEST	AP T	0
DRGB	VP DRGB	1

*Please with the memory each items by pressing **MUTING** → and then **ENTER**.

5-2. A BOARD ADJUSTMENTS**RF AGC ADJUSTMENT(IF BLOCK VR)**

- 1) Input a color-bar signal.
- 2) Adjust AGC VR of IF 201 so that snow noise and cross-modulation disappear from the picture.
- 3) Confirm them at every channel.

H.FREQUENCY ADJUSTMENT (HFRE)

- 1) Set to Service Mode.
- 2) Input a color-bar signal.
- 3) Connect a frequency counter to base of Q 501.
- 4) Call the item of AFC, set to 3 level (free run).
- 5) Select HFRE with **1** and **4**.
- 6) Adjust **3** and **6** to the 15735 ± 60 Hz level.
- 7) Call the item of AFC again, adjust the level "00".
- 8) Write into the memory by pressing **MUTING** → then **ENTER**.

V.FREQUENCY ADJUSTMENT (VFRE)

- 1) Set the Service Mode.
- 2) Input an off-air signal (VIDEO IN → no signal).
- 3) Connect the frequency counter across connector V.DY+ of A-52 connector and ground.
- 4) Select VFRE with **1** and **4**.
- 5) Adjust **3** and **6** to the 56 ± 0.5 Hz.
- 6) Write the memory by pressing **MUTING** → then **ENTER**.

CHROMA TRAP ADJUSTMENT (CROM)

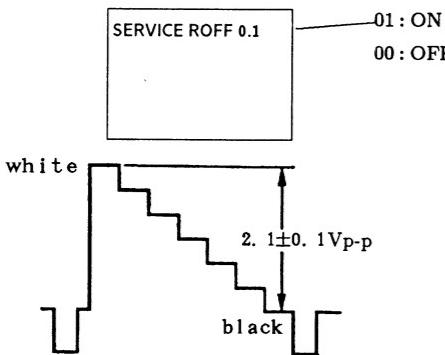
- 1) Set to Service Mode.
- 2) Input a color-bar signal.
- 3) Select NOTCH (VIDEO condition), turn ON by pressing **+**. And then set the COLOR VR to maximum setting position and SHARPNESS control to center.
- 4) Connect an oscilloscope to pin ① of A-32 connector and ground.
- 5) Select C ROM with **1** and **4**, and then adjust 3.58 MHz (CHROMA) ingredient is minimum with **3** and **6**.
- 6) Write into the memory by pressing **MUTING** → then **ENTER**.
- 7) Set NOTCH to OFF, and make normal condition with **VIDEO** → then **RESET**.

SUB CONTRAST ADJUSTMENT (SPIX)

- 1) Set to Service Mode.
- 2) Input a color-bar signal. (75 IRE)
- 3) Set the conditions as follows.

PICTURE MAX
COLOR MIN
R OFF ON
G OFF OFF
B OFF OFF

Press **VIDEO** → **L** (L) (It becomes minimum).
Select **③** (ON) and **⑥** (OFF) with **①** and **④**.

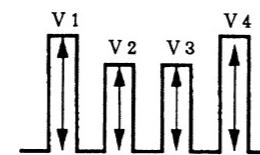


- 4) Connect an oscilloscope to pin **①** of connector A-32 and ground.
- 5) Adjust **③** and **⑥** to the $1.7 \pm 0.1\text{Vp-p}$ level by selecting SPIX with **①** and **④**.
- 6) Write the memory by pressing **MUTING** → then **ENTER**.
- 7) Return the following back to normal after adjustment.

G OFF ON
B OFF ON
COLOR CENTER
PICTURE 80%

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

- 1) Input a color-bar signal.
- 2) Press **VIDEO** → then **RESET** to normal.
- 3) Set to Service Mode.
- 4) Connect an oscilloscope to pin **③** of connector A-32 and ground.
- 5) Adjust **③** and **④** to the $V1=V4$ and $V2=V3$ by selecting to SHUE and SCOL with **①** and **④**.



- 6) Write into the memory by pressing **MUTING** → then **ENTER**.

V.SIZE ADJUSTMENT (VSIZ)

- 1) Set to Service Mode.
- 2) Press **VIDEO** → then **RESET** to normal.
- 3) Input a cross-hatch signal.
- 4) Adjust **③** and **⑥** to the best vertical size by selecting VSIZ with **①** and **④**.
- 5) Write into the memory by pressing **MUTING** → then **ENTER**.

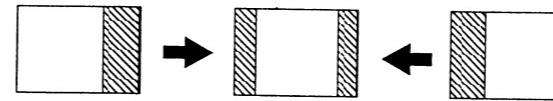
H.SIZE ADJUSTMENT (HSIZ)

- 1) Input a cross-hatch signal.
- 2) Press **VIDEO** → then **RESET** to normal.
- 3) Set to Service Mode.
- 4) Adjust **③** and **⑥** to best horizontal size by selecting HSIZ with **①** and **④**.
- 5) Write into the memory by pressing **MUTING** → then **ENTER**.

H.CENTER ADJUSTMENT (H POS)

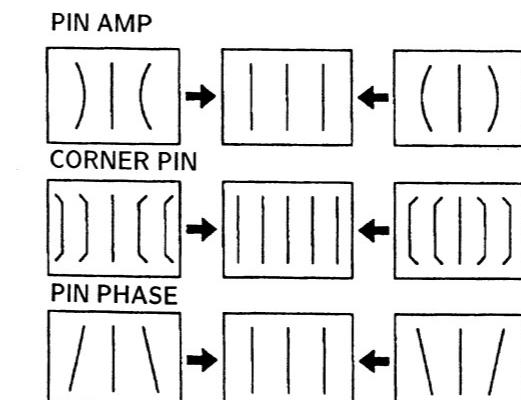
Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE).

- 1) Input a color bar signal.
- 2) Set the Service mode.
- 3) Select HSIZ with **①** and **④**.
- 4) Press **⑥** so that the Horizontal size set to min.
- 5) Adjust A-55 connector position so that both-size brancing width of the Raster should be same on the Scrnne.
- 6) Unplug Set then plug in Set.
- 7) Set to Service mode.
- 8) Select HPOS with **①** and **④**.
- 9) Adjust **③** and **⑥** so that the color bars center should be set to the CRT Screen center position.
- 10) Write into the memory by the pressing **MUTING** → then **ENTER**.



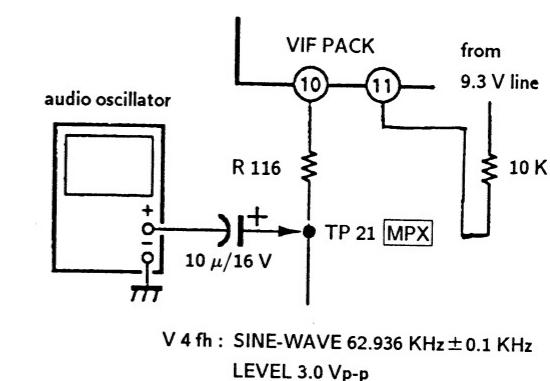
PIN AMP (PAMP), CORNER PIN (CPIN) AND PIN PHASE (PPHA) ADJUSTMENT

- 1) Input a cross-hatch signal.
- 2) Press **VIDEO** → then **RESET** to normal.
- 3) Set to Service Mode.
- 4) Select PAMP, CPIN and PPHA with **①** and **④**.
- 5) Adjust **③** and **⑥** to the best picture.
- 6) Write the memory by **MUTING** → **ENTER**.

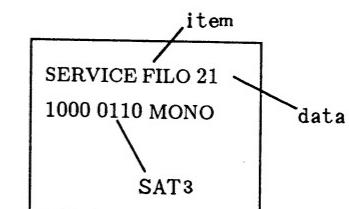


FILTER ADJUSTMENT (MPX, FILO)

- 1) Set to Service Mode.
- 2) Select to **TEST** with **①** and **④**, set the data to "1". Then select MPX and change data to "08".
- 3) Connect an audio oscillator to R116 using a capacitor ($10\mu\text{F}/16\text{V}$), set frequency to $62.936\text{ kHz} \pm 0.1\text{ kHz}$. And then, through the $10\text{k}\Omega$ resistor, feed 9.3V into the pin **⑪** of VIF pack.

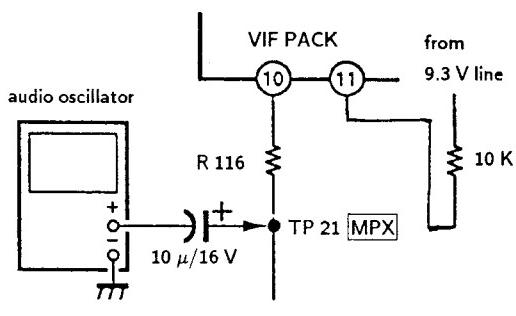


- 4) Make the data "00" by selecting FILO with **①** and **④**. And then, send up the data gradually by pressing **⑥**. Set the data to D1 before SAT3 changing to 1 from 0.
- 5) Send up the data gradually. Set data D2 when SAT3 changes 0 from 1.
- 6) Adjust the data of FILO to $\frac{D_1 + D_2}{2}$.
- 7) Write into the memory by pressing **MUTING** → then **ENTER**.



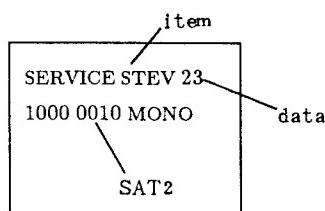
ST VCO ADJUSTMENT (MPX, STEV)

- 1) Set to Service Mode.
- 2) Select TEST with [1] and [4], set the data to "1". And then press **MTS** to MONO.
- 3) Select MPX, set the data "8".
- 4) Connect an audio oscillator to R 116 using electrolytic capacitor ($10\mu F/16V$) and apply the frequency Vst. Then, apply DC voltage to pin 11 of VIF pack using $10k\Omega$ connect to 9.3V line.



V 4 fh : SINE-WAVE $62.936\text{ KHz} \pm 0.1\text{ KHz}$
LEVEL 3.0 Vp-p

- 5) Select STEV with [1] and [4], set the data to "00" with [6]. And then, send up the data gradually. Set the data to D1 before SAT2 changes from 0 to 1.
- 6) Send up data gradually, set the data to D2 when SAT2 changes 1 from 0.
- 7) Adjust the data of STEV to
- 8) Write into the memory by pressing **MUTING** → then **ENTER**.



MPX IN LEVEL ADJUSTMENT (MPX)

- 1) Set to Service Mode.
- 2) Select TEST with [1] and [4], set the data to "0" with [6]. And then press **MTS** to MONO.
- 3) Select MPX with [1] and [4], set the data to "08" with [3] and [6].
- 4) Write into the memory by pressing **MUTING** → then **ENTER**.

PILOT CANCEL ADJUSTMENT (PILO)

- 1) Set to the Service Mode.
- 2) Select TEST with [1] and [4], set the data to "0" with [6]. And then press **MTS** to MAIN.
- 3) Select PILO with [1] and [4], set the data to "08" with [3] and [6].
- 4) Write into the memory by pressing **MUTING** → then **ENTER**.

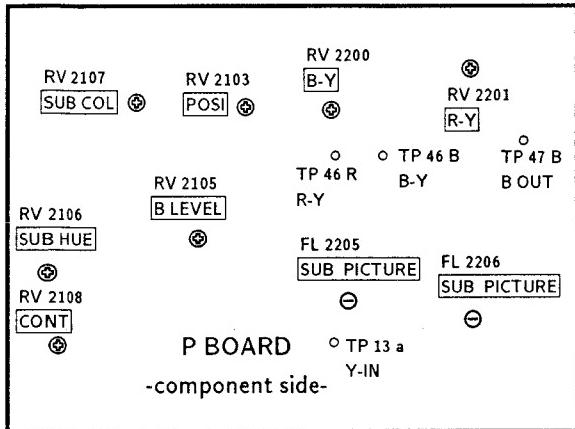
SAP VCO f. ADJUSTMENT (SAPV)

- 1) Set to Service Mode.
- 2) Input a stereo broadcast signal with SAP.
- 3) Select TEST with [1] and [4], set the data to "0" . And then, press **MTS** to MAIN.
- 4) Connect a digital multimeter to TP-1(DBX). This voltage reading will equal V 1.
- 5) Press MTS to SAP and this voltage will equal V 2.
- 6) Select SAPV with [1] and [4], adjust [3] and [6] so that $V 2 = V 1 \pm 0.03\text{ VDC}$.
- 7) Write the memory by **MUTING** → **ENTER**.

SEPARATION ADJUSTMENT (SEP)

- 1) Set to Service Mode.
- 2) Press **MTS** to MAIN and receive a monorabroadcast signal.
- In the next step, receive a stereo broadcast signal.
- 3) Select SEP and VD with [1] and [4], adjust [1] and [6] so that a clear stereo sound is effected.

5-3. P BOARD ADJUSTMENTS (KV-27 EXR 25 only)

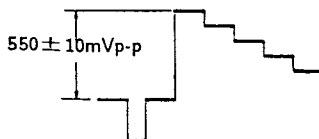


RF AGC ADJUSTMENT(IF BLOCK VR)

- 1) Input a color-bar signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) Adjust AGC VR of IF 1201 so that snow noise and cross-modulation disappear from the picture.
- 4) Confirm them at every channel.

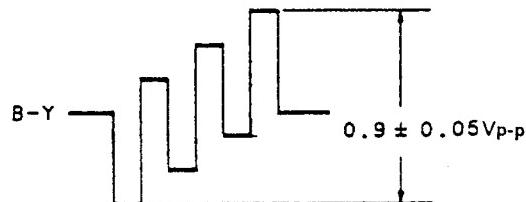
CONTRAST ADJUSTMENT(RV 2108)

- 1) Input a color-bar signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) Observe signal at TP-13 a an oscilloscope.
- 4) Adjust RV 2108 (SUB CONT) so that the signal level between white and pedestal becomes 550 ± 10 mVp-p as shown.



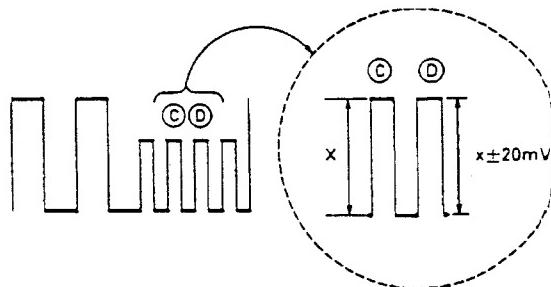
SUB COLOR ADJUSTMENT(RV 2107)

- 1) Input a color-bar signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) COLOR RESET
HUE RESET
- 4) Connect an oscilloscope to TP-47 B.
- 5) Adjust RV 2107 so that voltage is 0.9 ± 0.05 Vp-p.



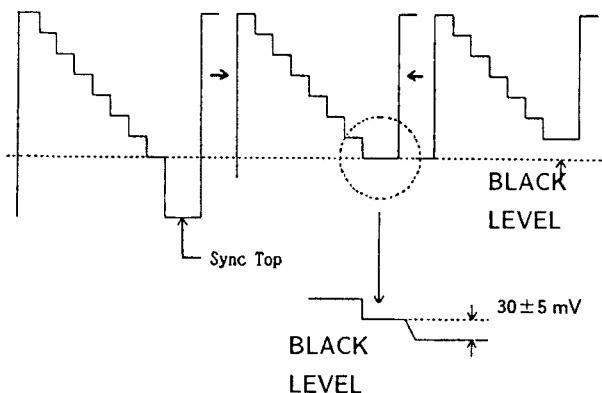
SUB HUE ADJUSTMENT(RV 2106)

- 1) Input a color-bar signal.
- 2) Set to PICTURE IN PICTURE mode.(1/4 SIZE)
- 3) PICTURE 80%
BRIGHT RESET
COLOR RESET
HUE RESET
- 4) Connect an oscilloscope to TP-47 B.
- 5) Adjust RV2106 so that the C coincides with D as shown in figure.

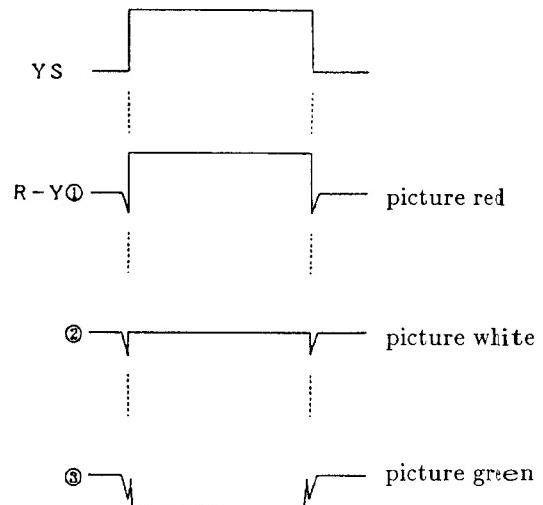


BRT LEVEL ADJUSTMENT(RV 2105)

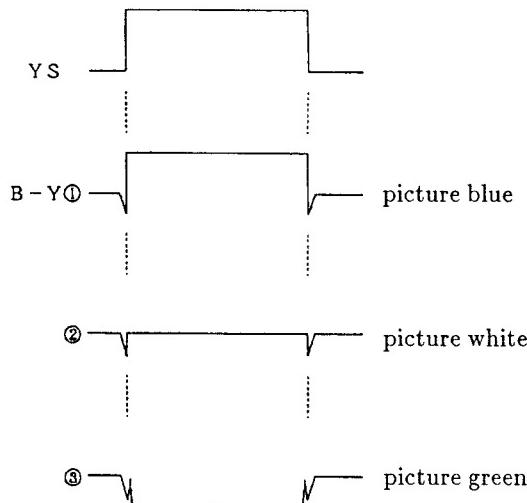
- 1) Input a color-bar signal.
- 2) Observe PICTURE IN PICTURE mode.
- 3) Adjust RV 2105(B.LEVEL) so that the signal level between C.B.black level and Sync level becomes same level as shown.

TP-13 a output**R-Y ADJUSTMENT**

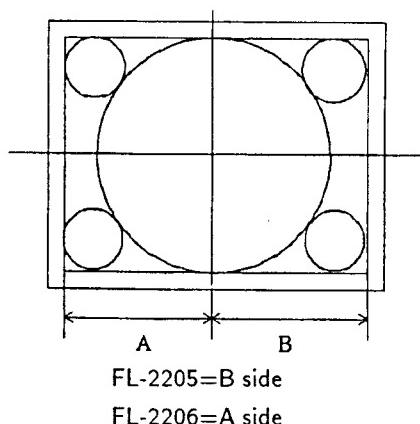
- 1) Input a color-bar signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) Connect an oscilloscope to TP-46 R.
- 4) Adjust RV 2201 so that the wavefront as shown in figure.

**A/D OFF SET ADJUSTMENT(RV 2200,2201)****B-Y ADJUSTMENT**

- 1) Input a color-bar signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) Connect an oscilloscope to TP-46 B.
- 4) Adjust RV 2200 so that the wavefront as shown in figure.

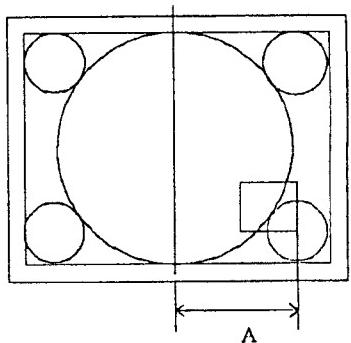
**SUB PICTURE ADJUSTMENT(FL 2205,2206)**

- 1) Input a monoscope signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) Adjust FL2205,FL2206 so that A and B are same size.



SUB PICTURE POSITION ADJUSTMENT(RV 2103)

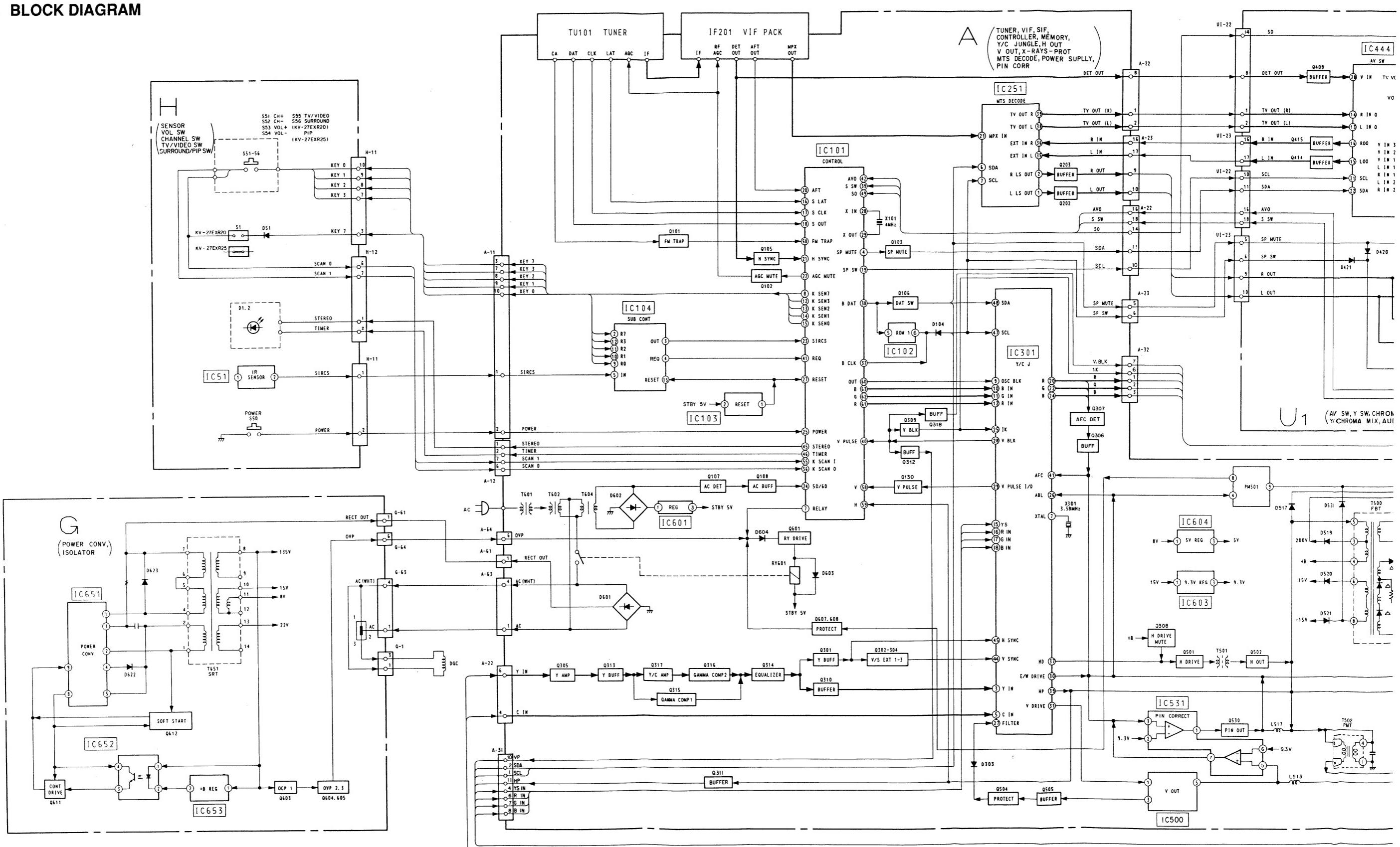
- 1) Input a cross-hatch signal.
- 2) Set to PICTURE IN PICTURE mode.
- 3) Adjust RV 2103 so that the SUB PICTURE is a suitable position.

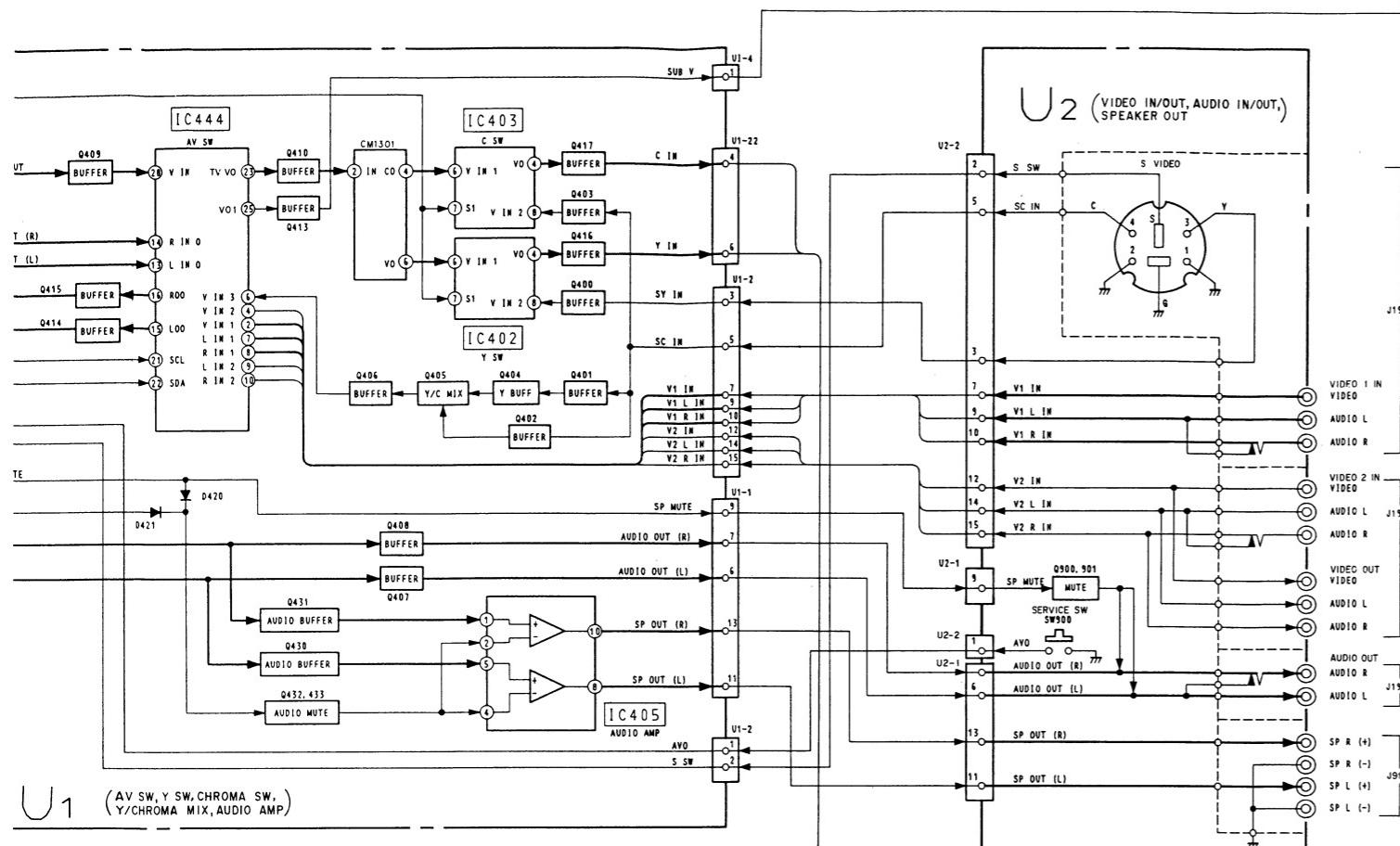


SECTION 6

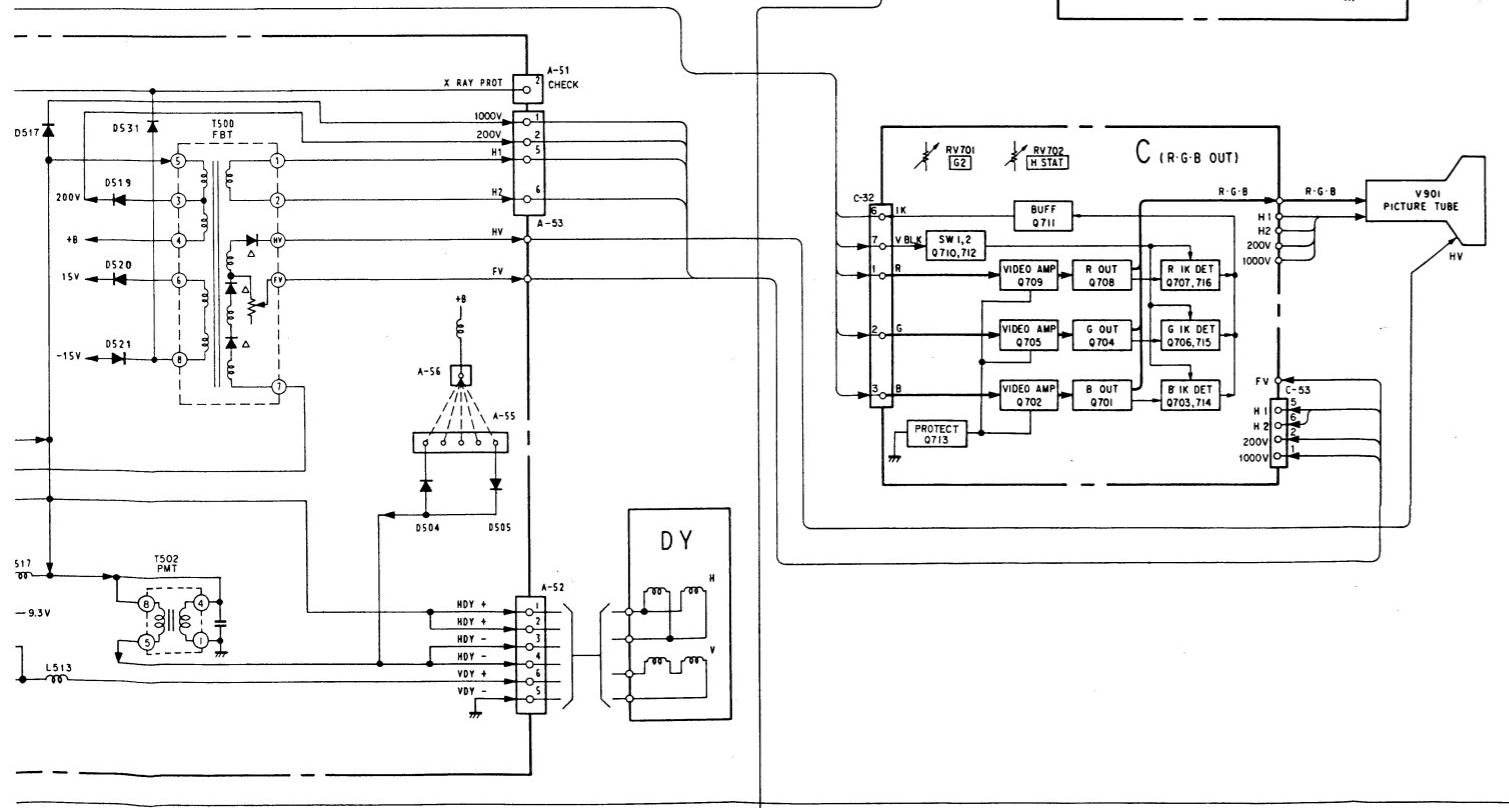
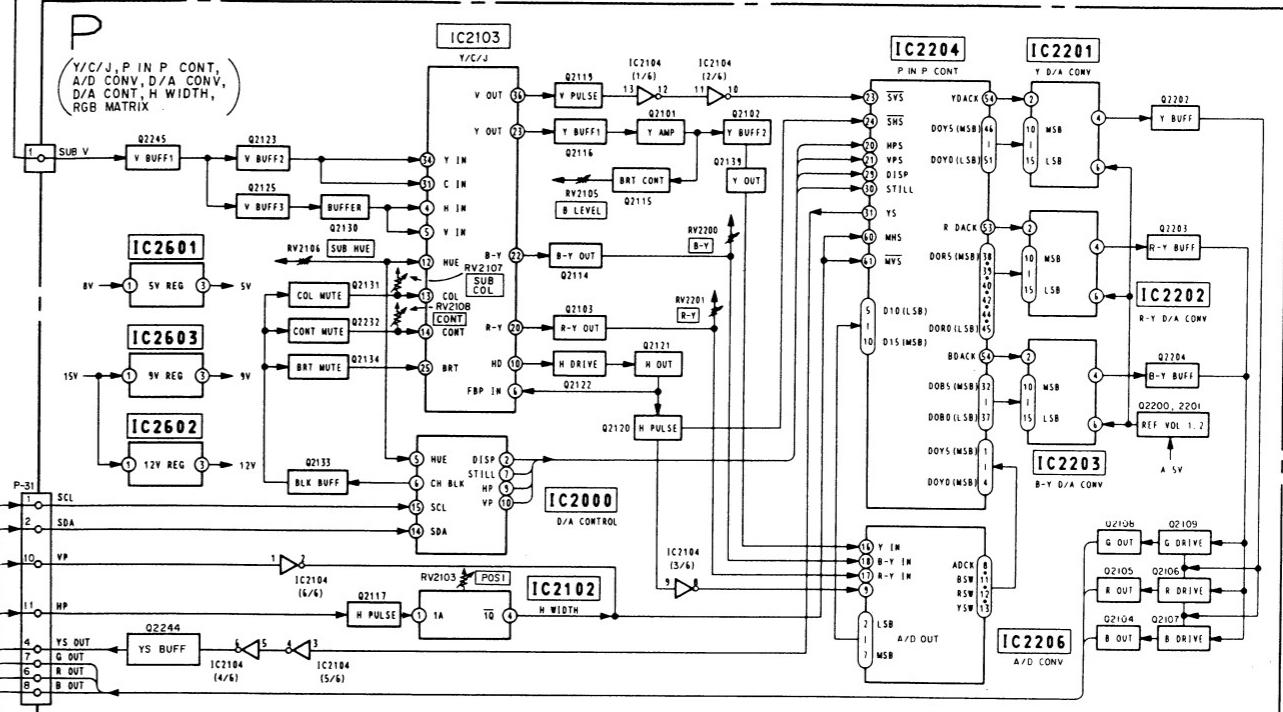
DIAGRAMS

6-1. BLOCK DIAGRAM

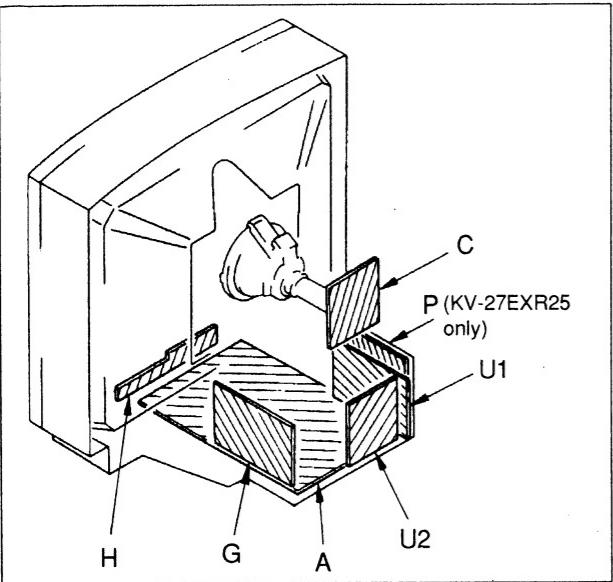




(KV-27EXR25 ONLY)



6-2. CIRCUIT BOARDS LOCATION

6-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS
-Conductor Side-

Note:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
- $\text{k}\Omega=1000\Omega$, $\text{M}\Omega=1000\text{k}\Omega$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

- Chips resistors are 1/10W.
- : nonflammable resistor.
- : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.

- The components identified by in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- When replacing components identified by mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to R570 and R559 adjustment on page 22-25)

When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (Adjustment (
PM501, Q607, Q608, R559, R627, R628, R629	R559 Hold-down
IC653, PM501, Q607, Q608, D531, C545, R570, R591, R627, R628, R675, T500	R570 Hold-down

Reference information

RESISTOR : RN METAL FILM
: RC SOLID
: FPRD NONFLAMMABLE CARBON
: FUSE NONFLAMMABLE FUSIBLE
: RS NONFLAMMABLE METAL OXIDE
: RB NONFLAMMABLE CEMENT
: RW NONFLAMMABLE WIREWOUND
: ADJUSTMENT RESISTOR
COIL : LF-8L MICRO INDUCTOR
CAPACITOR : TA TANTALUM
: PS STYROL
: PP POLYPROPYLENE
: PT MYLAR
: MPS METALIZED POLYESTER
: MPP METALIZED POLYPROPYLENE
: ALB BIPOLAR
: ALT HIGH TEMPERATURE
: ALR HIGH RIPPLE

- Readings are taken with a color-bar signal input.
- Readings are taken with a 10 $\text{M}\Omega$ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : B- bus.
- : signal path.

Note:

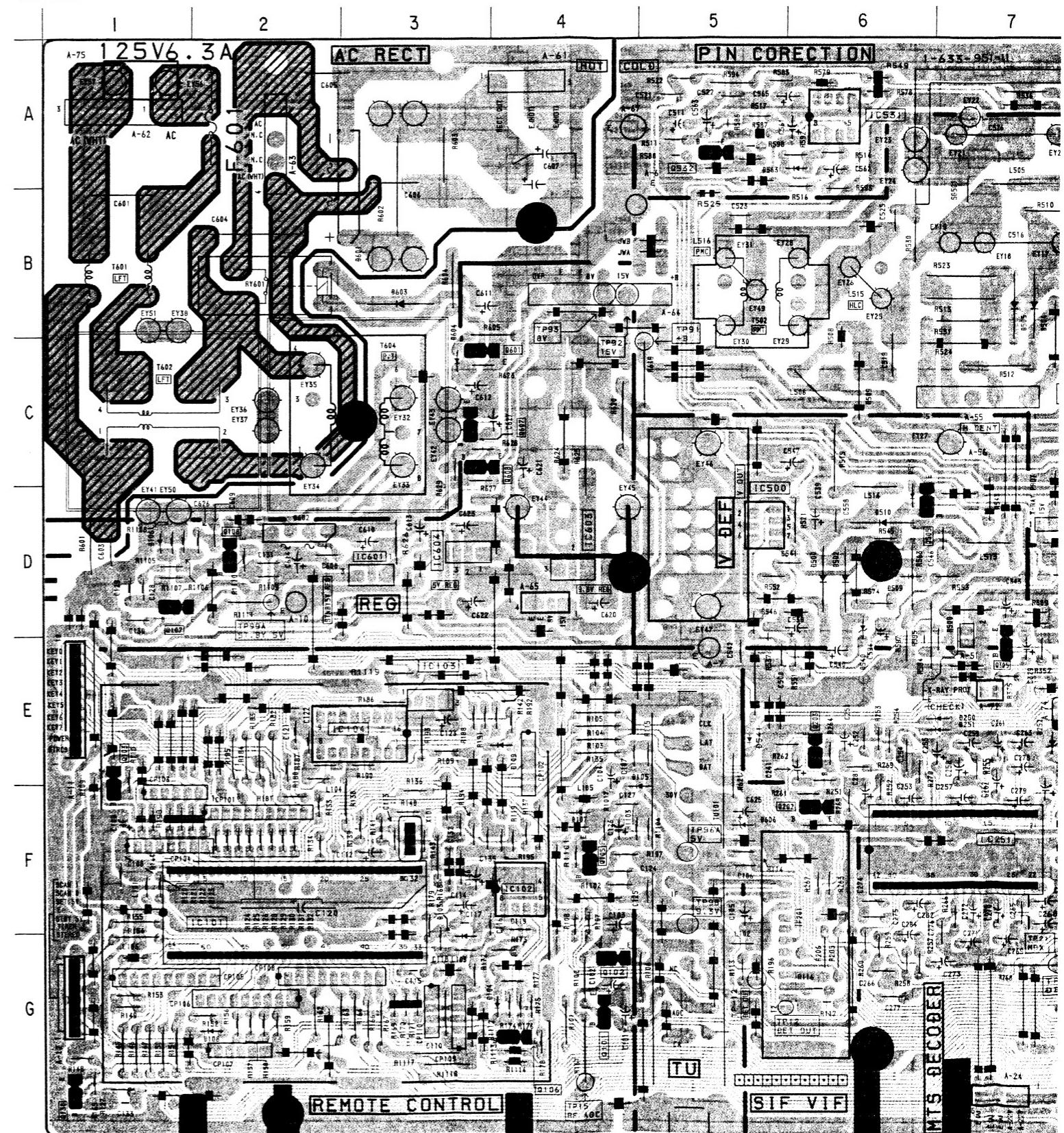
The components identified by shading and mark are critical for safety. Replace only with part number specified.

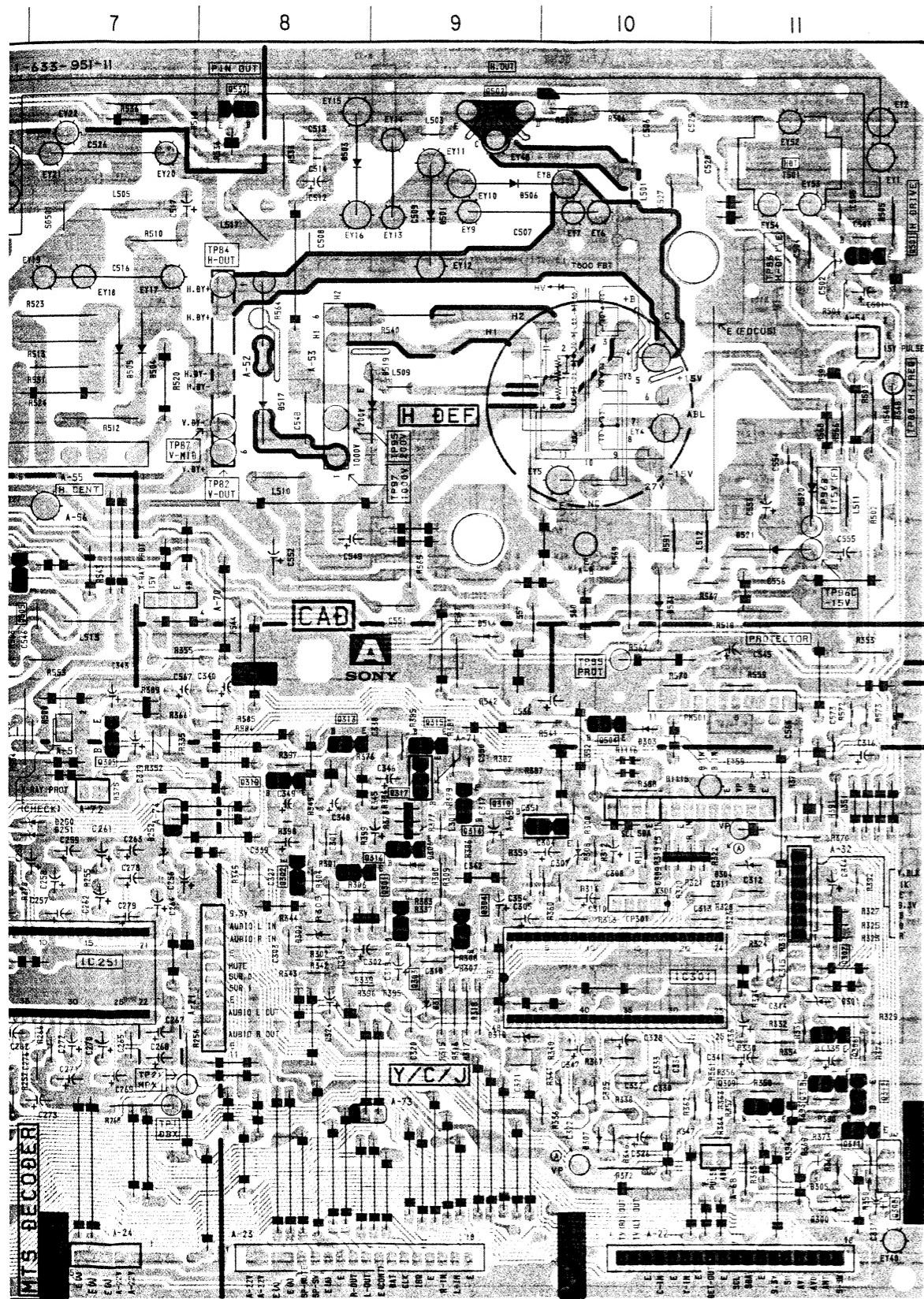
Note:

Les composants identifiés par un tramé et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

A [TUNER, VIF, SIF, CONTROLLER, MEMORY, Y/C JUNGLE,
H OUT, V OUT, X RAYS PRO, MTS DECODE,
POWER SUPPLY, PIN CORR]

— A Board —





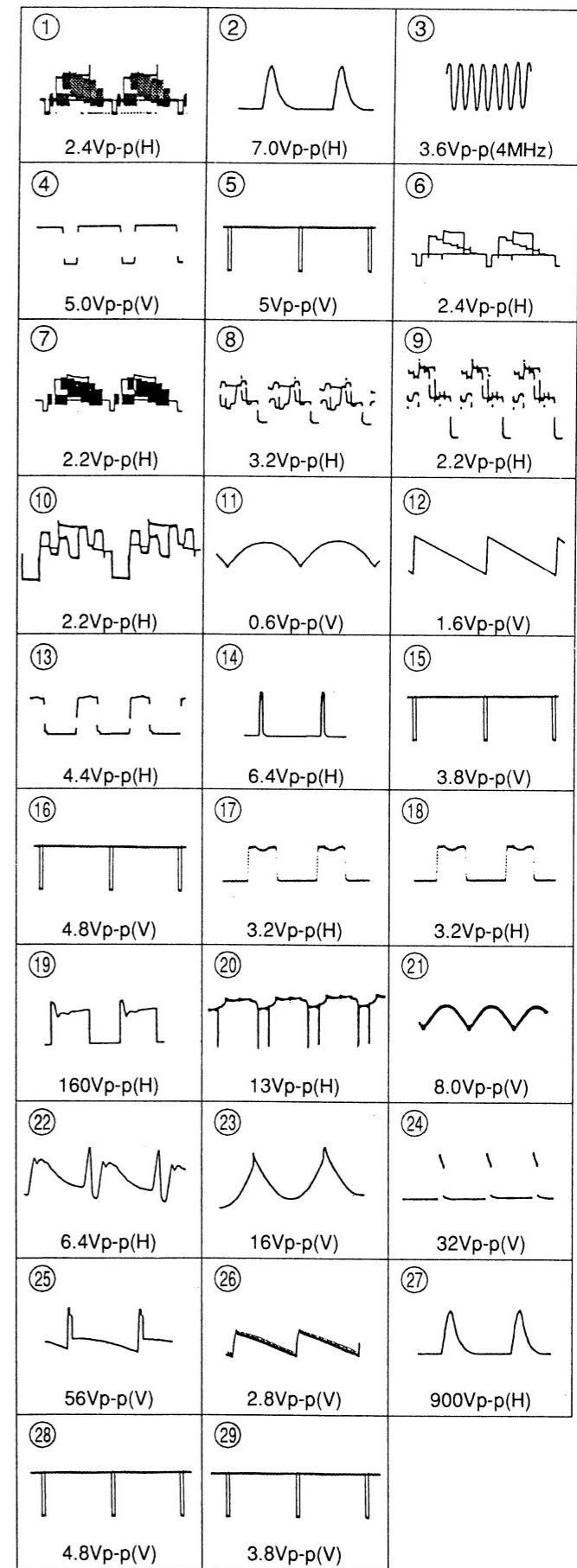
A Board

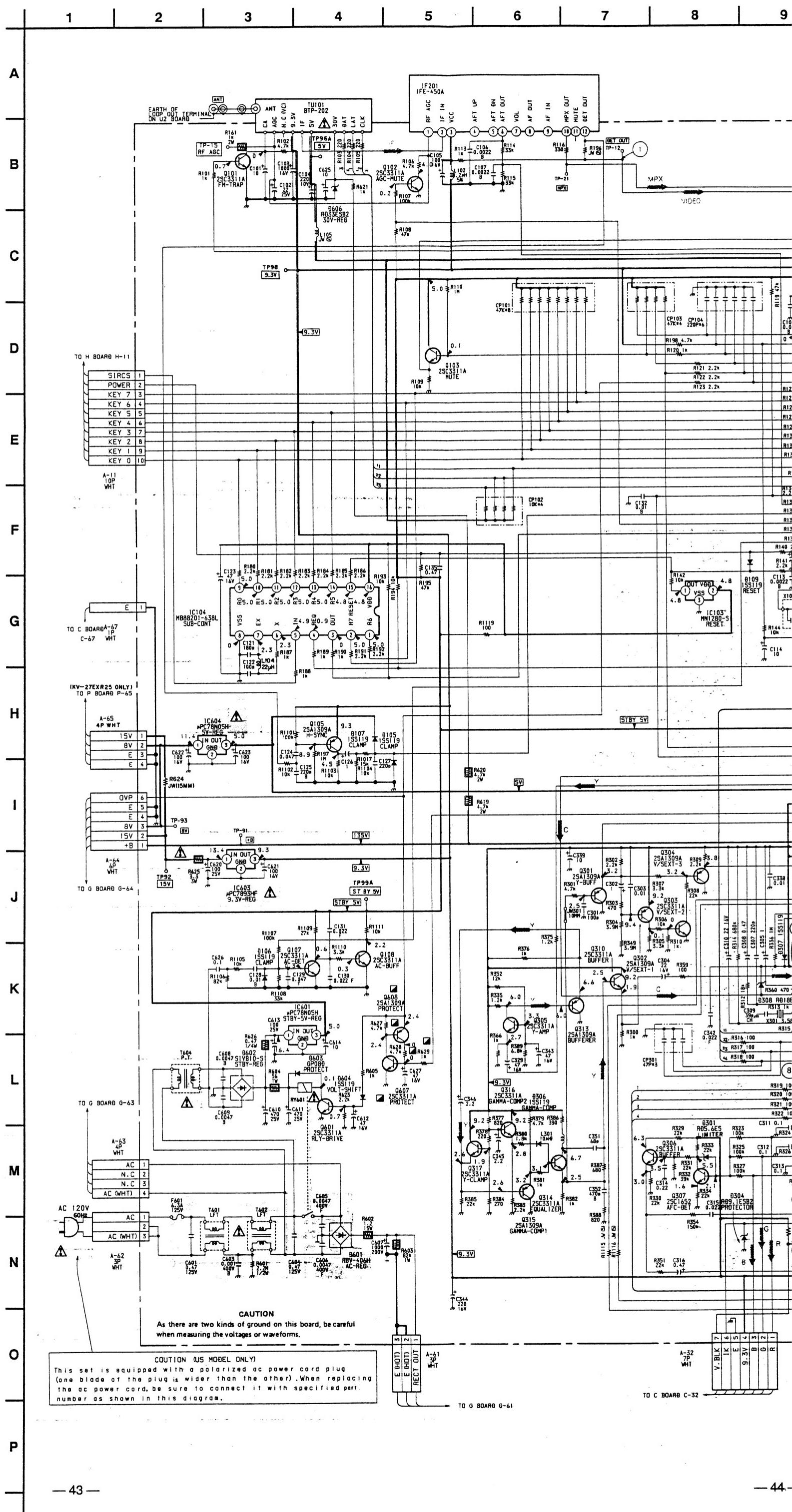
IC		TRANSISTOR		DIODE
IC101	F-2	Q316	E-9	D506 A-9
IC102	F-4	Q317	E-9	D509 D-6
IC103	E-3	Q318	G-11	D510 D-6
IC104	E-3	Q501	B-11	D514 D-9
IC251	F-7	Q502	A-9	D515 D-6
IC301	F-10	Q504	E-10	D517 C-8
IC500	D-5	Q505	D-6	D519 C-8
IC531	A-6	Q530	A-8	D520 C-11
IC601	D-3	Q601	C-3	D521 C-11
IC603	D-4	Q607	C-3	D531 D-10
IC604	D-3	Q608	C-3	D540 D-6
TRANSISTOR		DIODE		D563 A-6
Q101	G-4	D103	G-3	D601 B-3
Q102	G-4	D104	G-4	D602 D-2
Q103	E-1	D105	E-4	D603 B-3
Q105	F-4	D106	D-1	D604 C-3
Q106	G-4	D107	F-4	D606 F-5
				TEST POINT
Q107	D-1	D108	G-2	TP1 G-7
Q108	D-2	D109	E-4	TP12 G-5
Q130	G-1	D250	E-7	TP15 G-4
Q202	F-6	D251	E-7	TP21 G-7
Q203	E-6	D252	E-7	TP82 C-8
Q301	E-8	D300	G-11	TP84 B-8
Q302	E-8	D301	F-11	TP85 D-10
Q303	F-9	D302	F-8	TP86 B-11
Q304	F-9	D303	E-10	TP87 C-8
Q305	E-7	D304	E-11	TP88 C-11
Q306	F-11	D305	G-11	
Q307	F-11	D306	E-9	TP91 C-4
Q308	G-11	D307	G-10	TP92 B-4
Q309	G-11	D308	E-10	TP93 B-4
Q310	E-10	D310	F-9	TP95 C-8
Q311	G-11	D311	F-9	TP96A F-5
Q312	G-11	D500	D-6	TP96B C-11
Q313	E-8	D501	A-9	TP96C C-11
Q314	E-9	D502	D-6	TP97 C-8
Q315	E-9	D503	A-8	TP98 F-5
		D504	B-7	TP99A D-2
		D505	B-7	

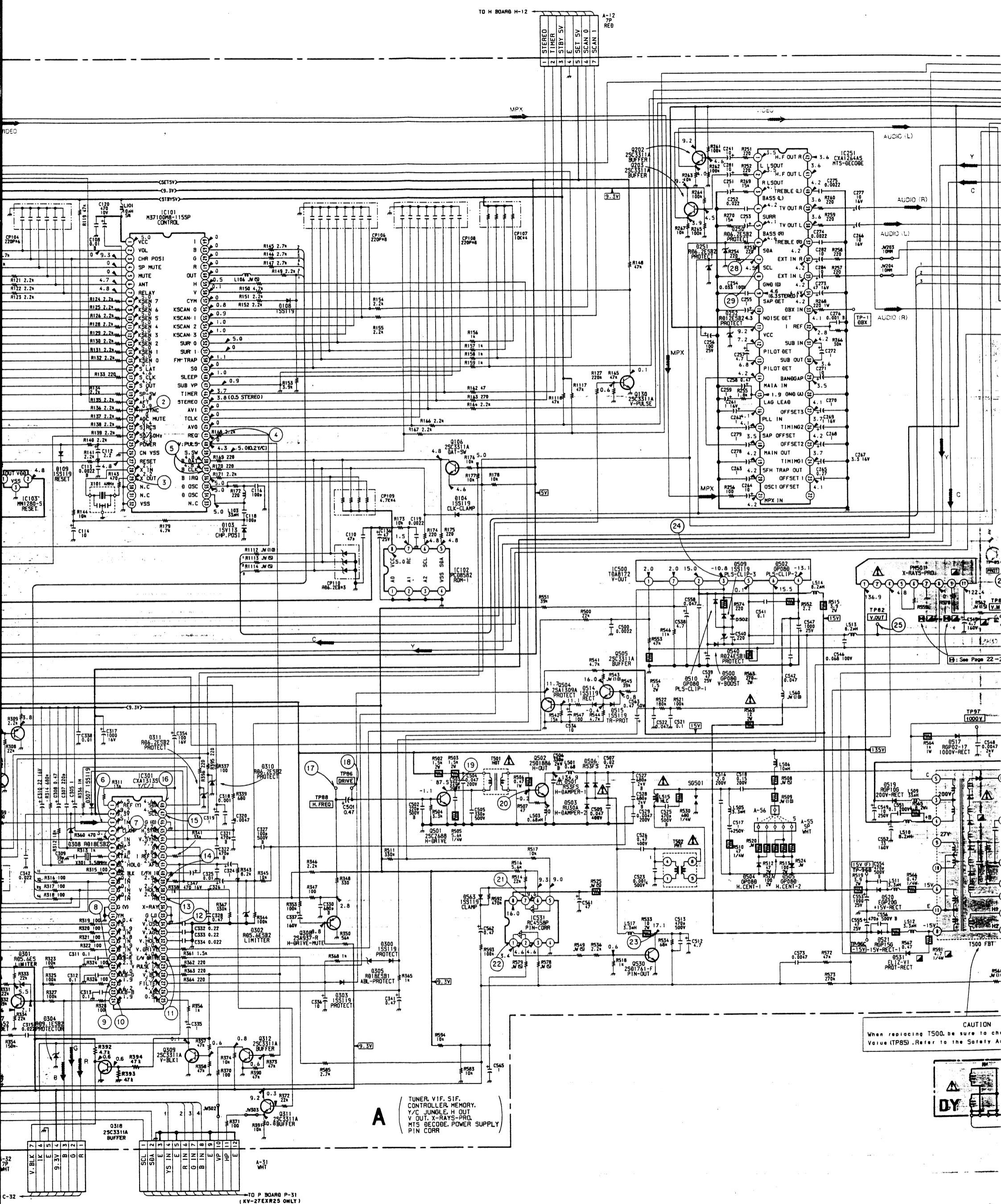
NOTE:

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

WAVEFORMS A BOARD

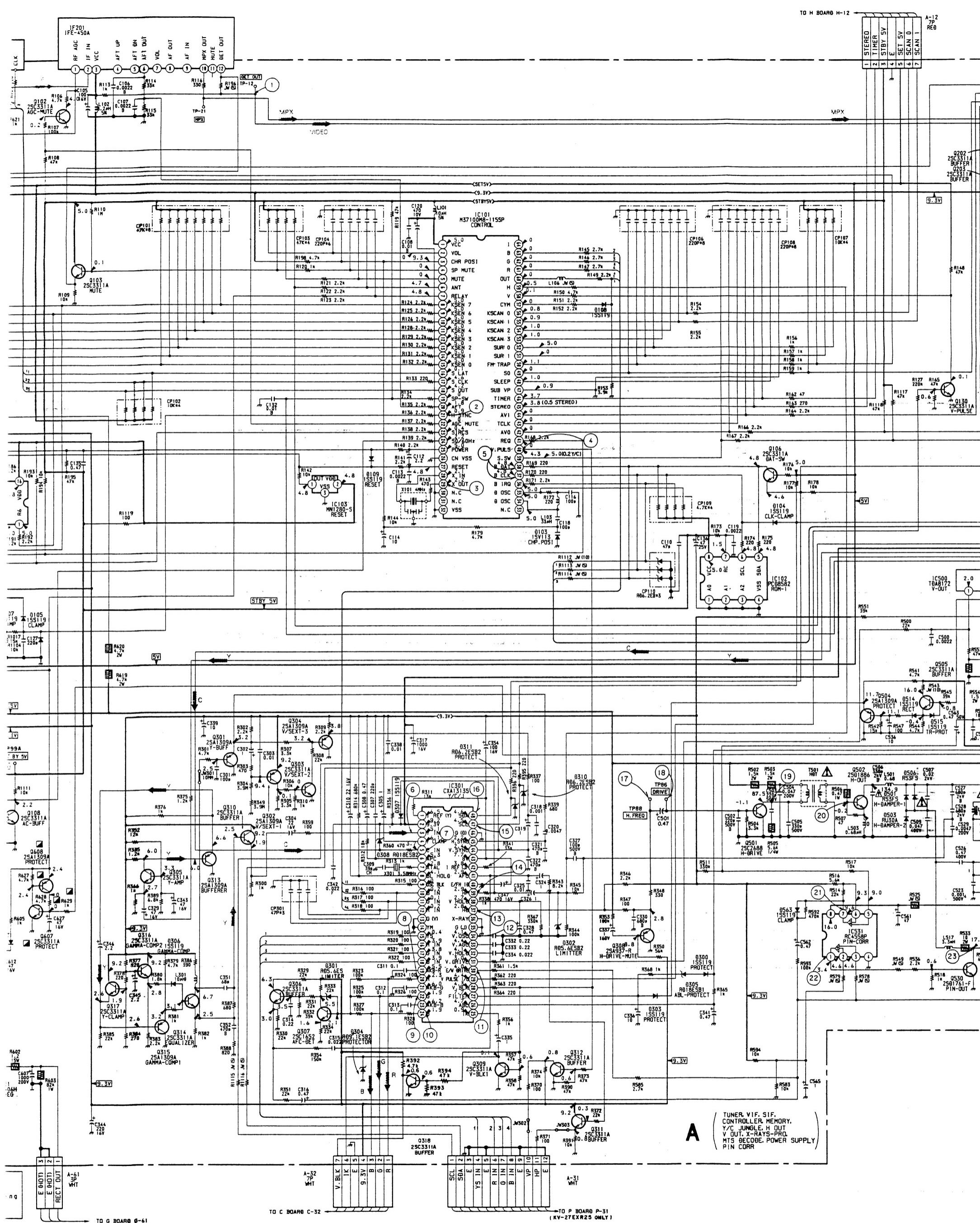


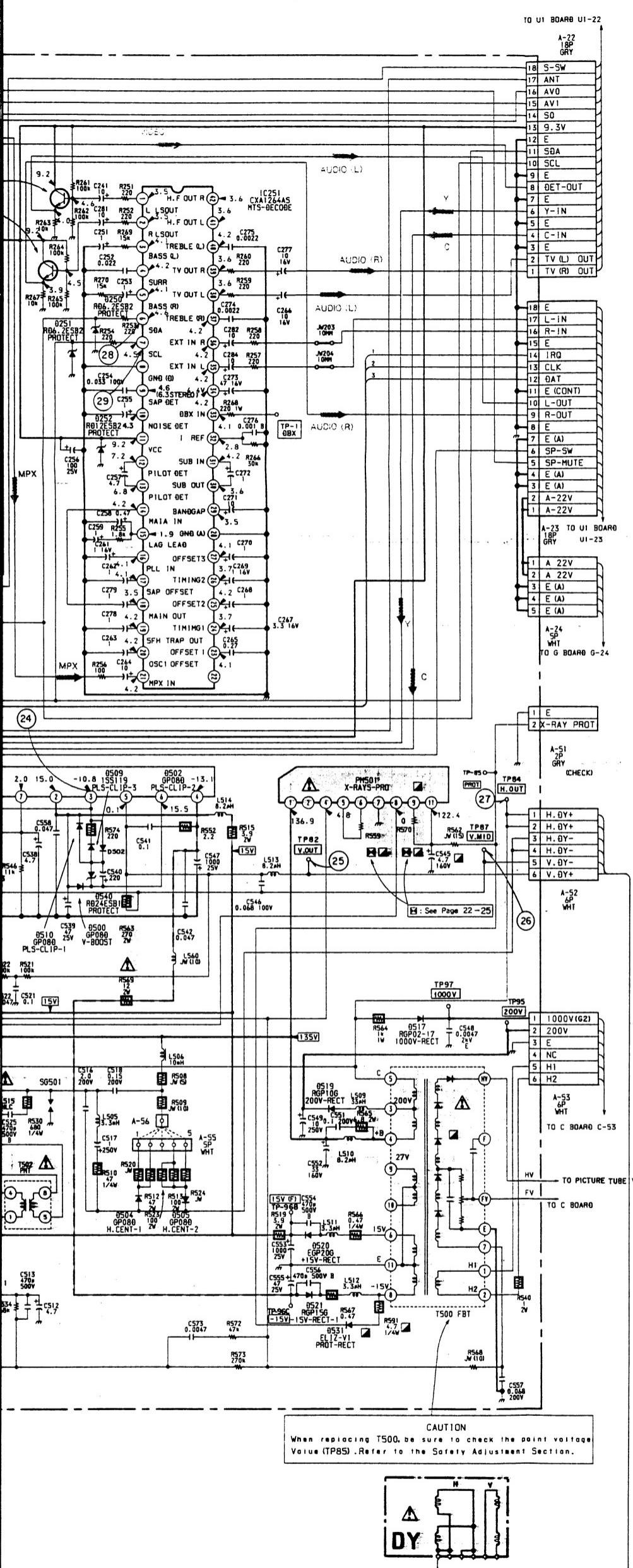




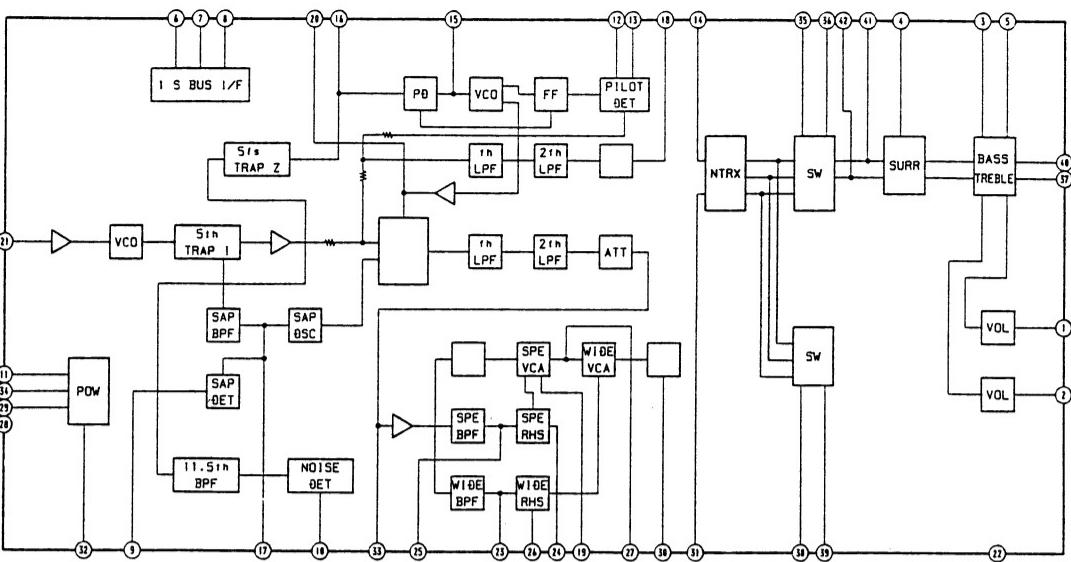
CAUTION

105

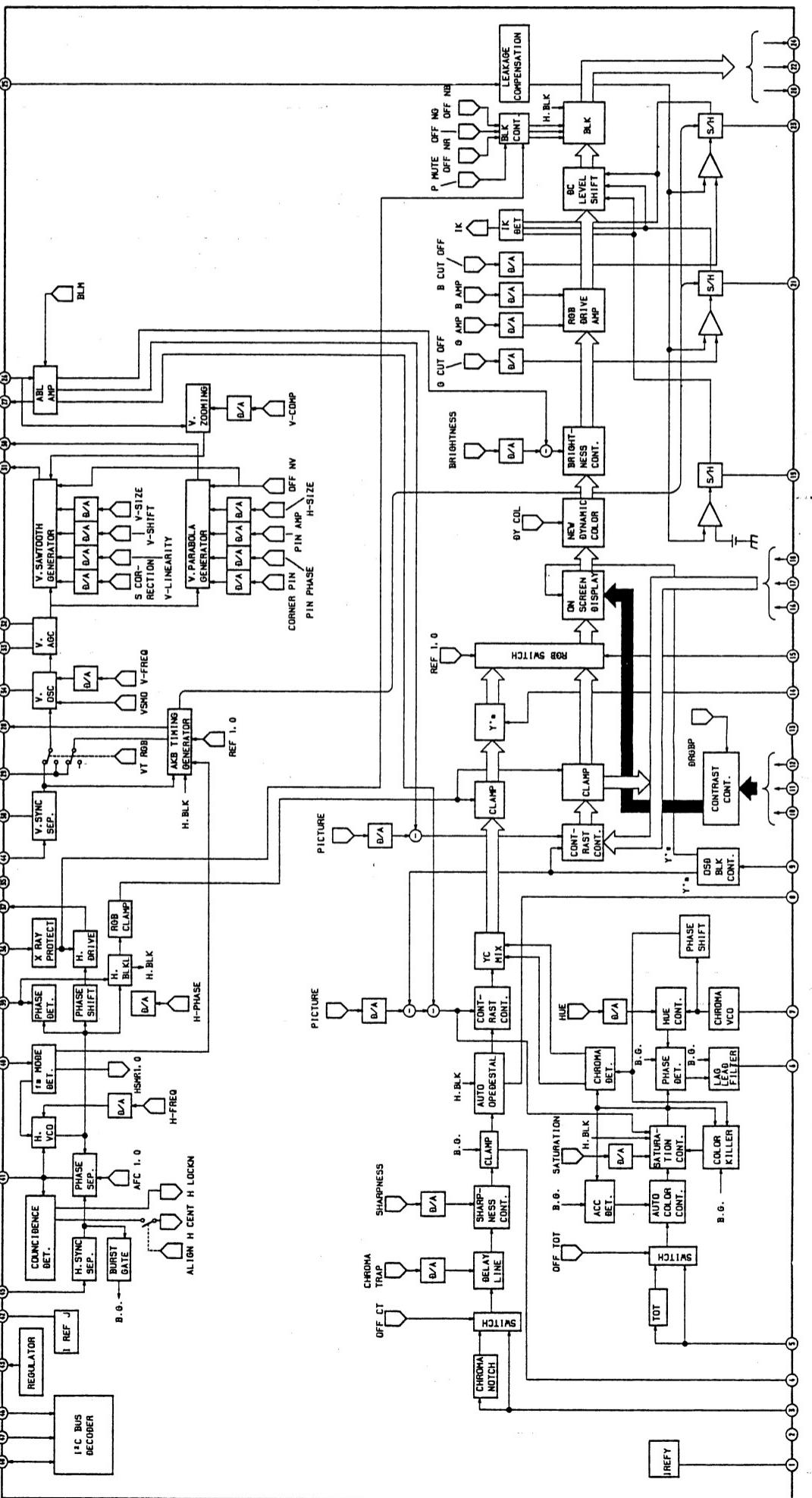




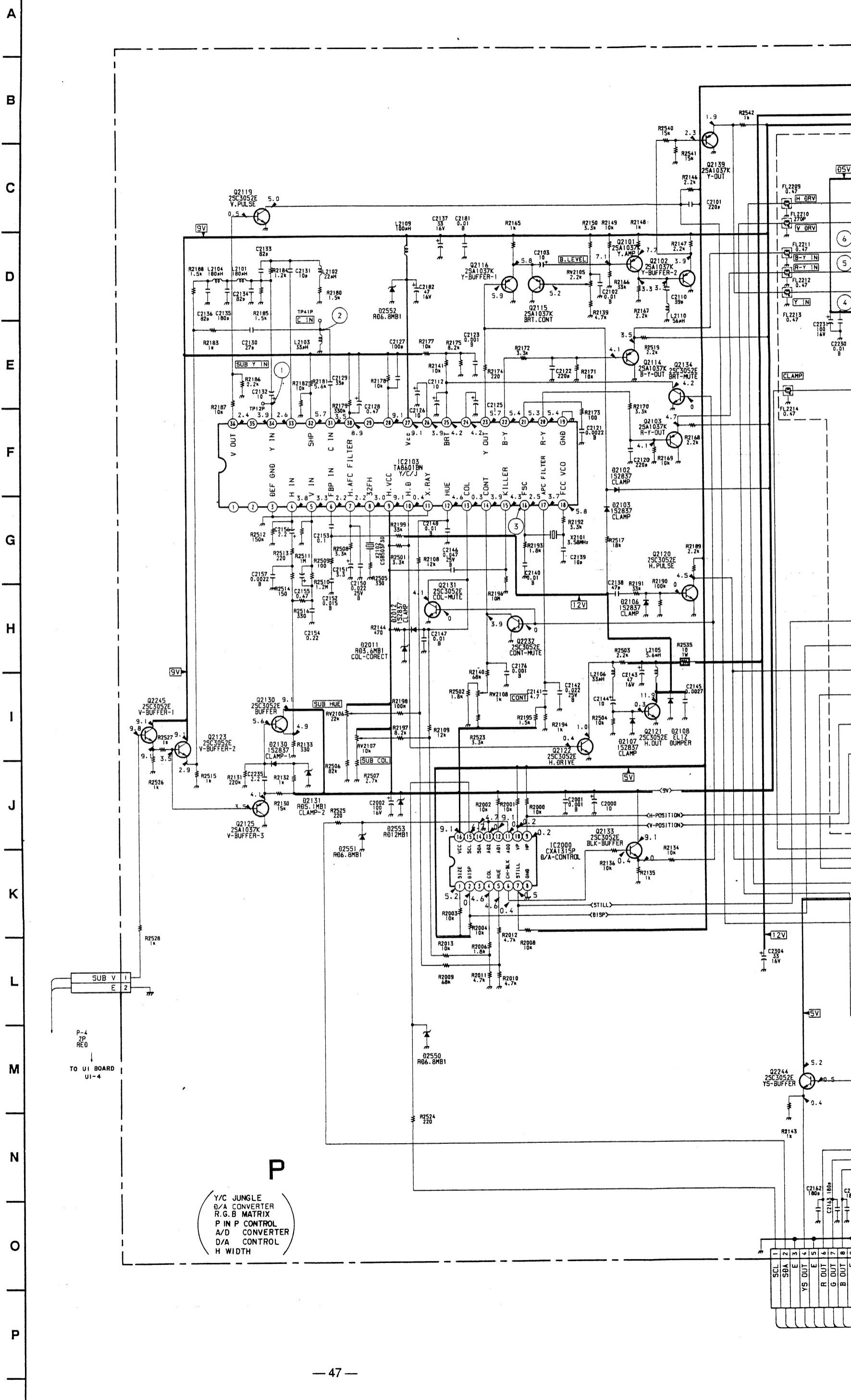
A BOARD IC251 CXA1264AS

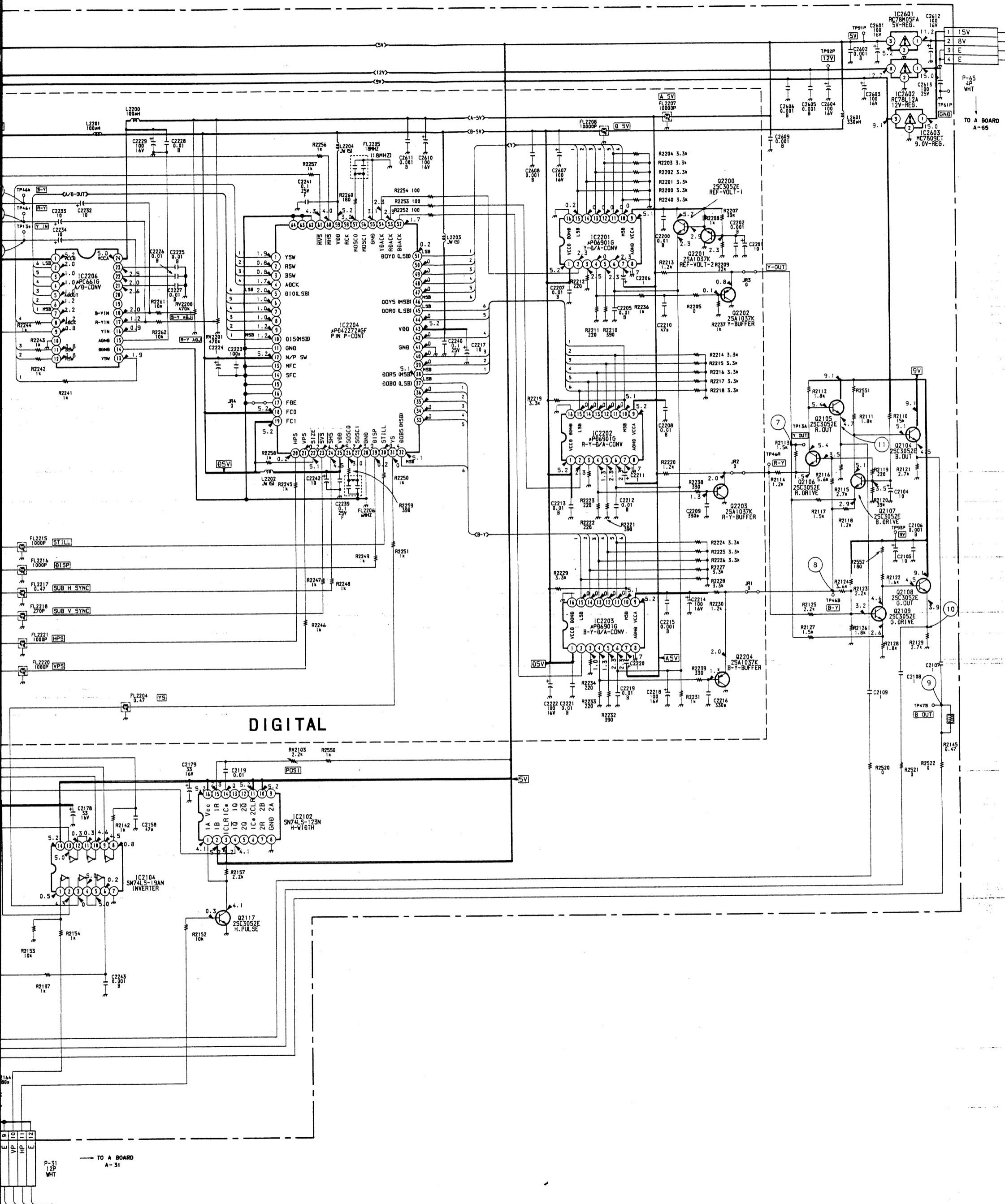


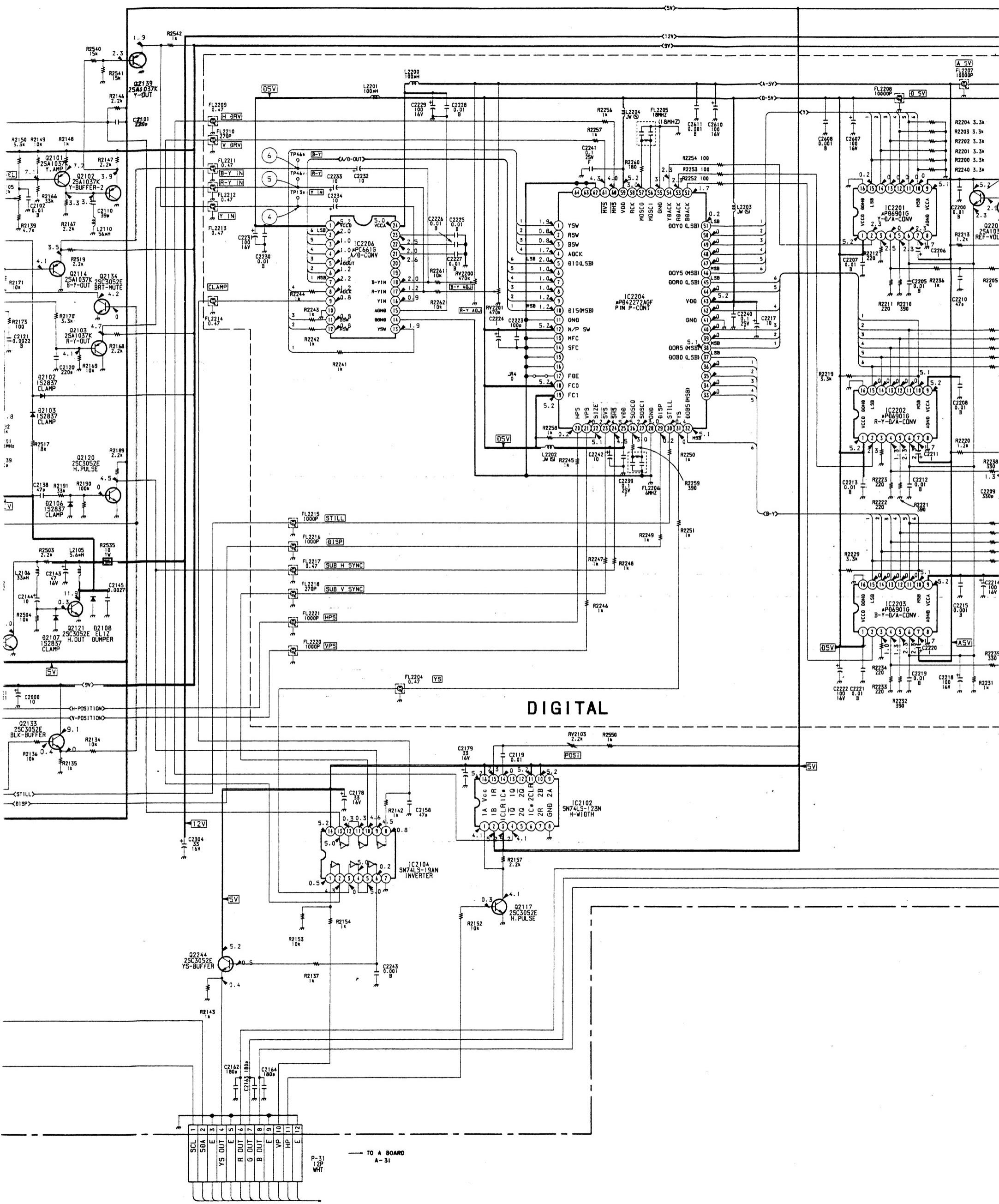
A BOARD IC301 CXA1313S



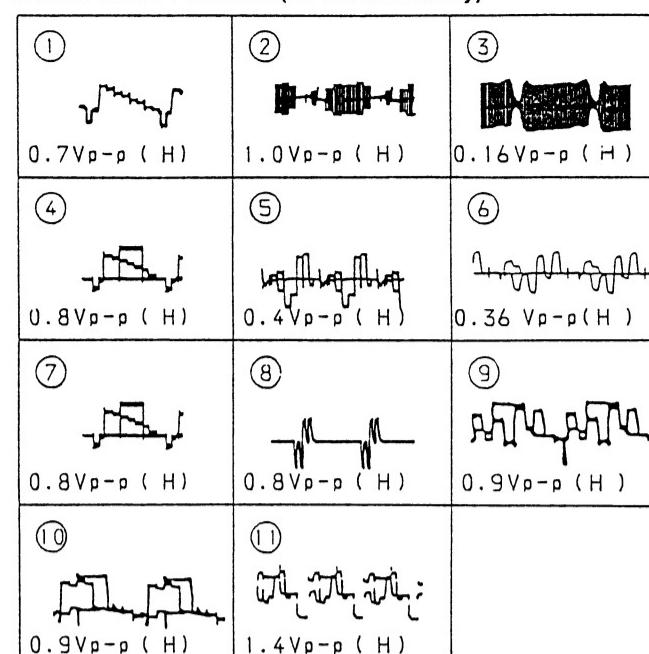
(KV-27EXR25 only)



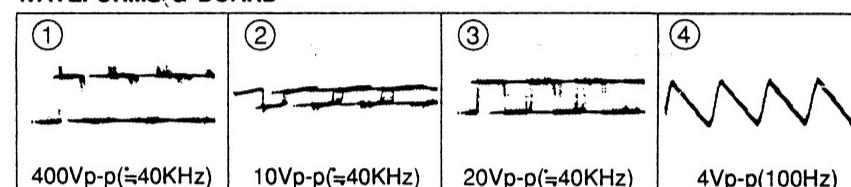




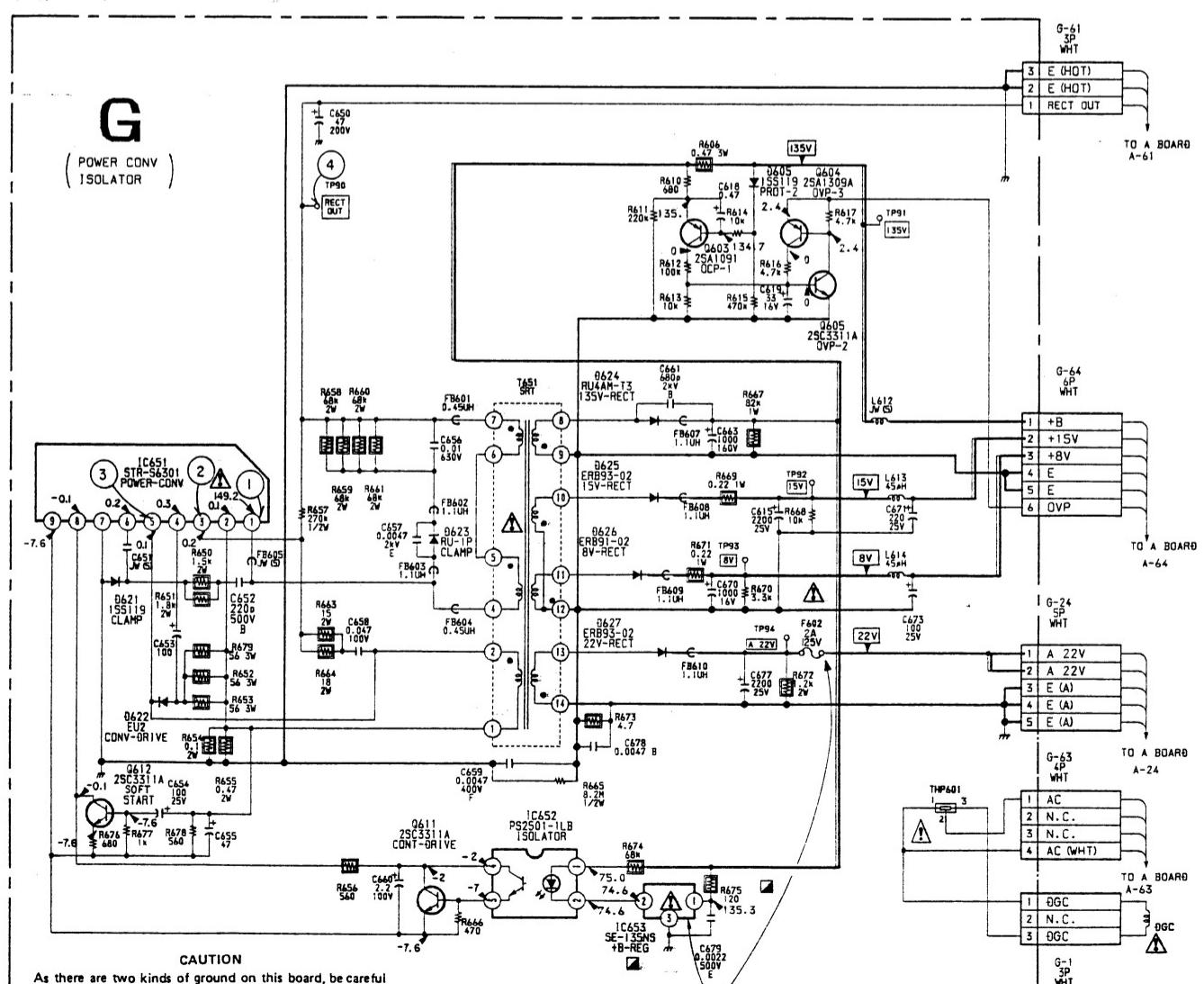
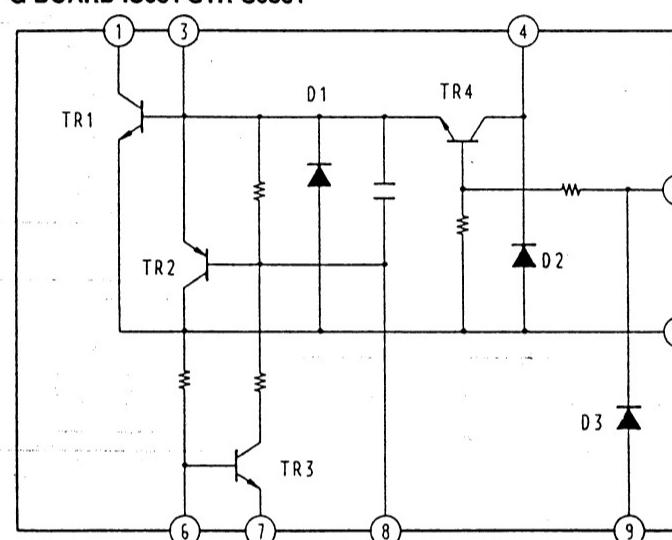
WAVEFORMS P BOARD (KV-27EXR25 only)



WAVEFORMS G BOARD



G BOARD IC651 STR-S6301



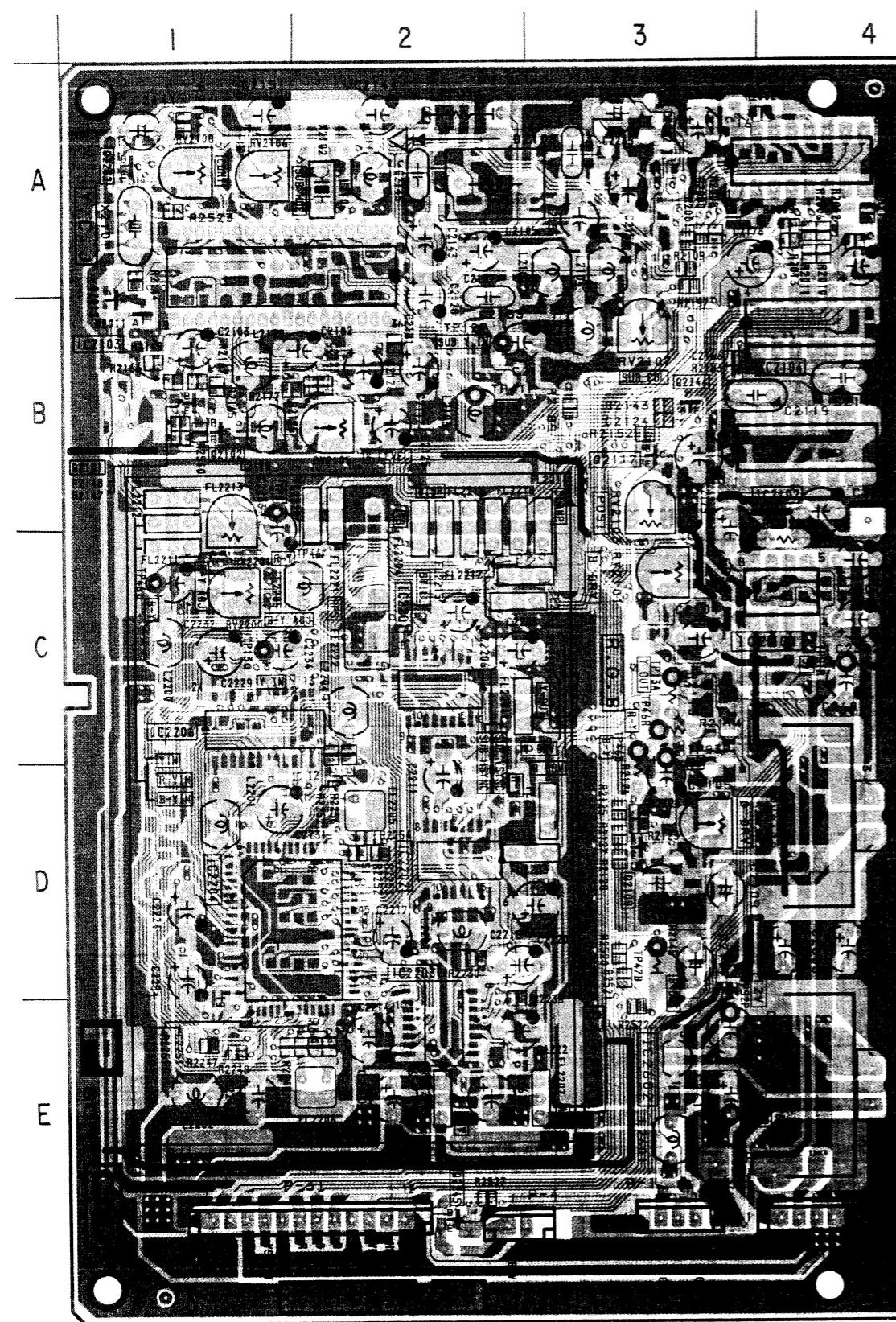
CAUTION
When taking a broken fuse (F602) off, discharge across C677 to avoid shock hazard.

CAUTION
When replacing IC653, be sure to check the B+ line voltage value. Refer to the Safety Adjustment Section.

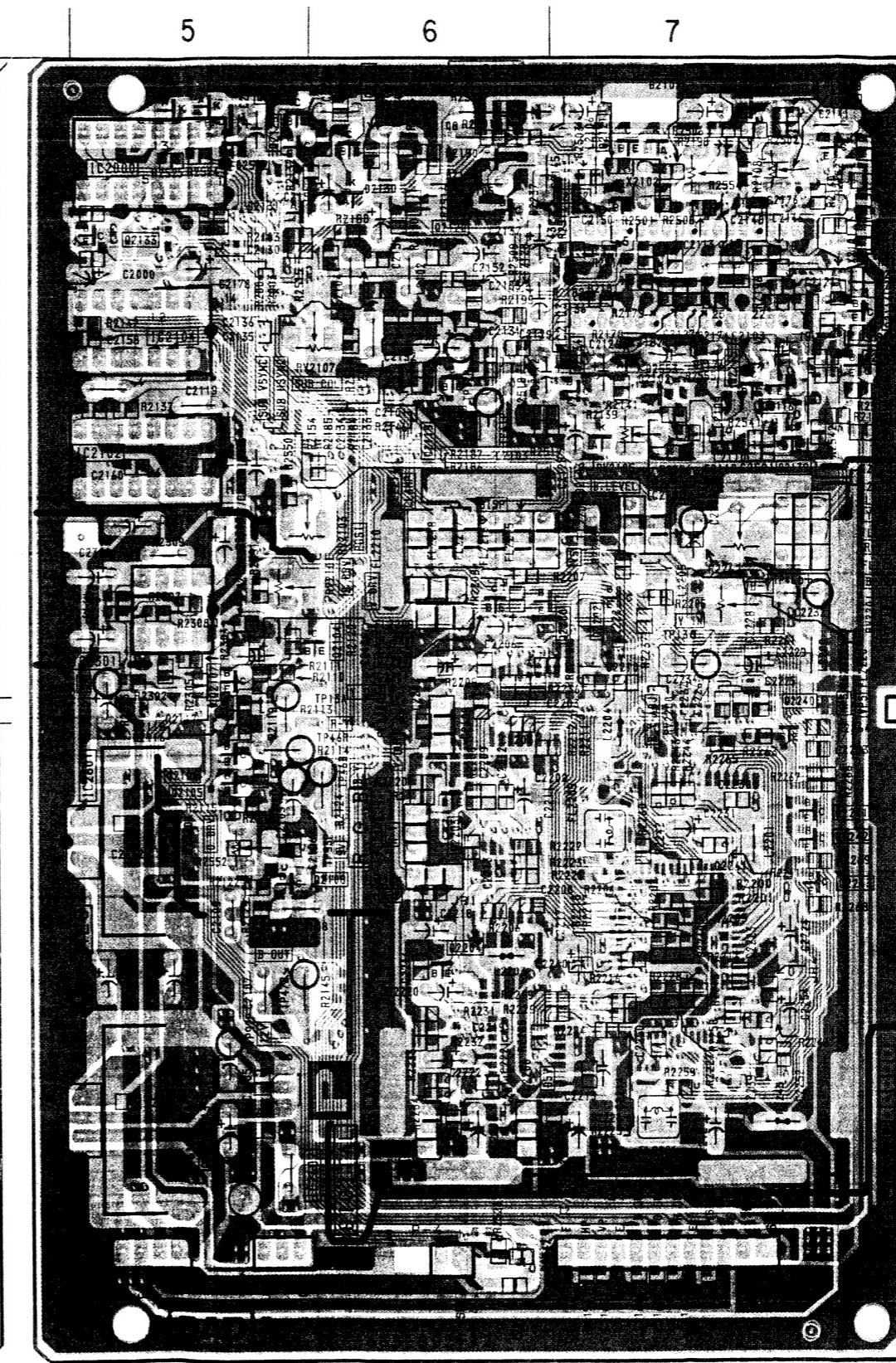
P [Y/C DECODER, D/A CONVERTER,
R-Y/B-Y OUT, R.G.B MATRIX]

— P Board — (KV-27EXR25 only)

— Component side —



— Conductor side —



P Board

IC	TRANSISTOR	DIODE
IC2000	A-5	Q2121 A-7
IC2102	B-5	Q2122 A-7
IC2103	A-7	Q2123 A-5
IC2104	B-5	Q2125 A-5
IC2201	C-2	Q2130 A-6
IC2202	D-2	Q2131 A-7
IC2203	E-2	RV2103 B-5
IC2204	D-1	Q2133 A-5
IC2206	C-1	Q2134 B-7
IC2601	D-5	Q2139 B-7
IC2602	E-5	Q2200 C-6
IC2603	E-5	Q2201 C-6
TRANSISTOR	Q2202 C-7	RV2200 C-7
	Q2203 D-6	RV2201 C-7
	Q2204 D-6	TEST POINT
	Q2232 A-1	
	Q2244 B-3	
DIODE	Q2245 E-2	
	Q2101 B-1	TP12P B-6
	Q2102 B-1	TP13A C-5
	Q2103 B-7	TP13a C-7
	Q2104 C-6	TP41P B-6
	Q2105 D-5	TP46B C-6
	Q2106 C-5	TP46R C-5
	Q2107 C-5	TP46b C-7
	Q2108 D-5	TP46r B-7
	Q2109 D-3	TP47B D-5
	Q2114 B-7	TP61P E-5
	Q2115 B-7	D2101 A-7
	Q2116 B-7	D2102 A-6
	Q2117 B-3	D2103 B-7
	Q2119 B-6	D2104 A-6
	Q2120 A-6	D2105 A-5
	Q2550 A-5	D2551 A-5
		D2552 A-5
		D2553 B-7

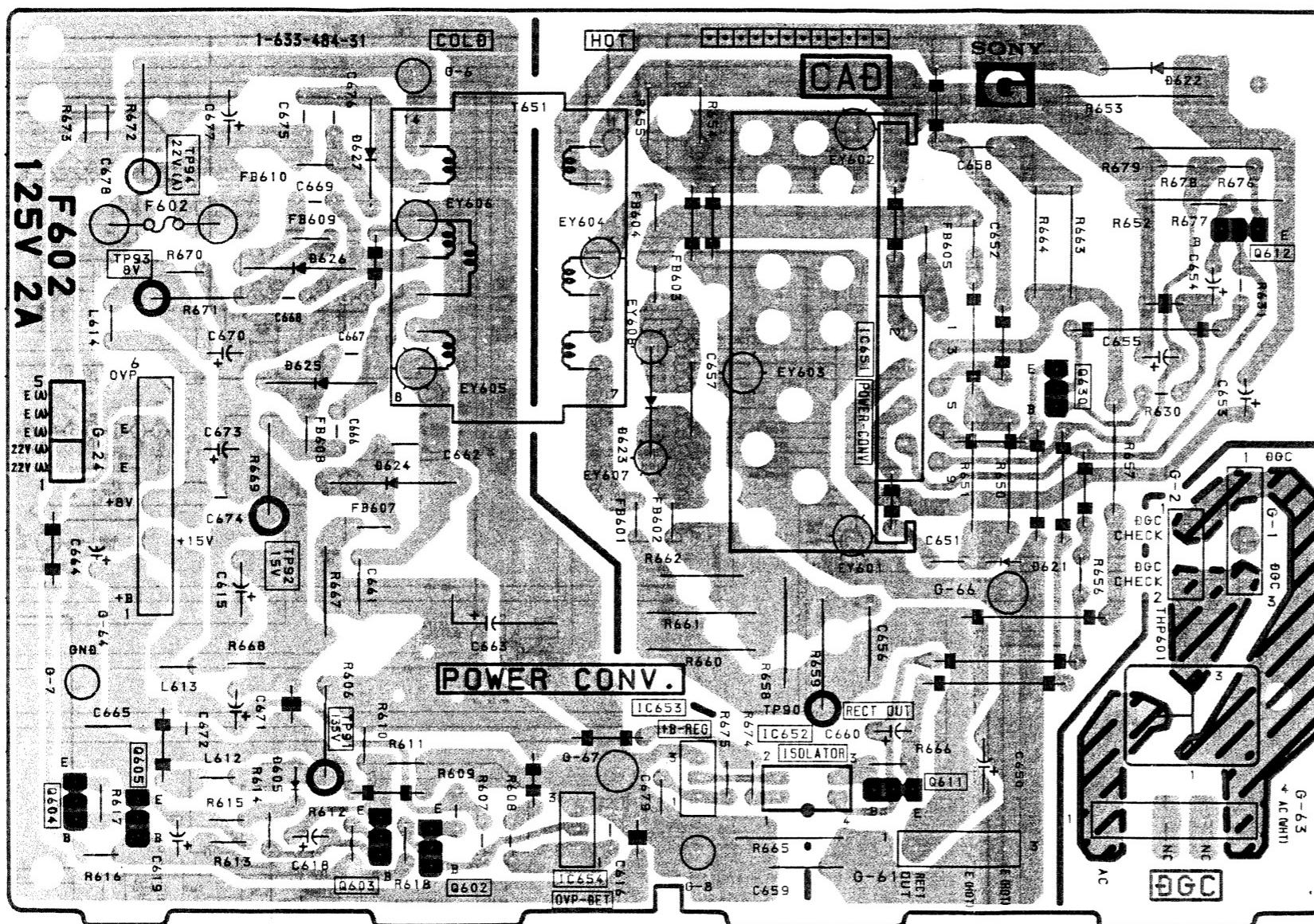
- : pattern from the side which enables seeing.
- : pattern of the rear side.

G

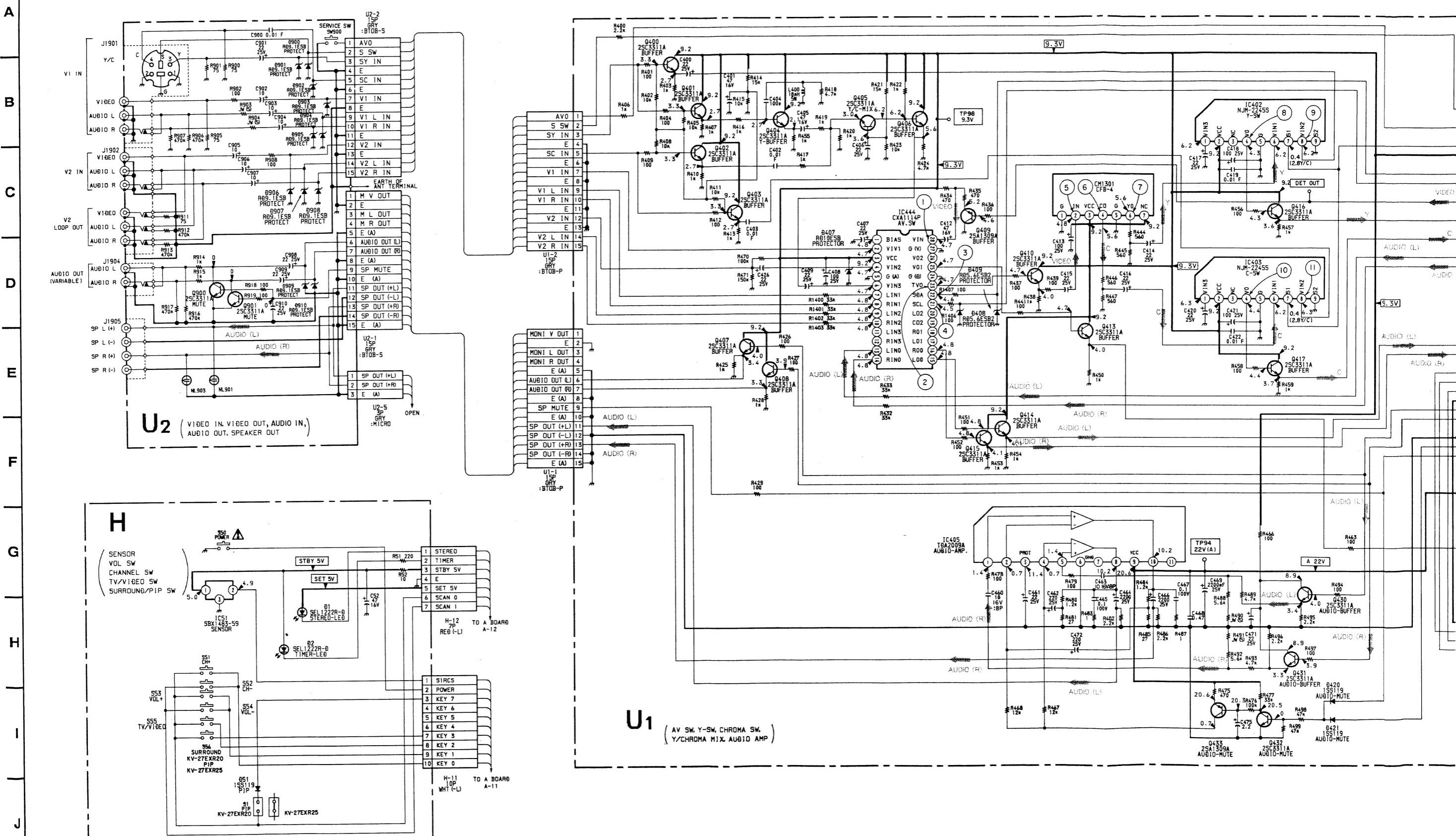
[POWER CONV, ISOLATOR]

— G Board —

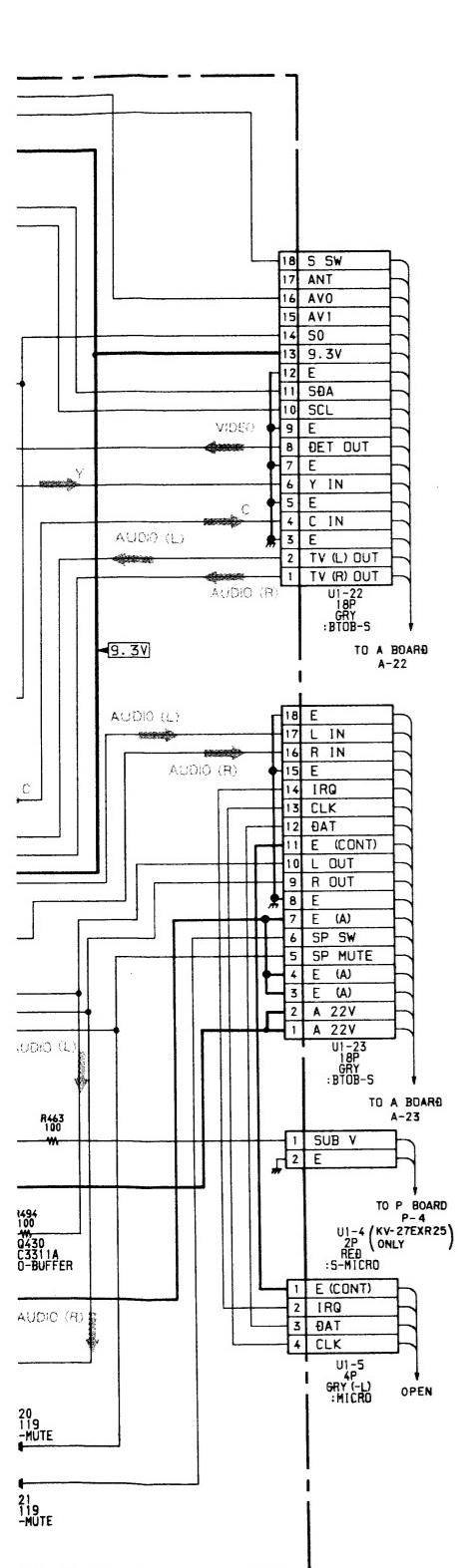
DIODE	
I2551	A-5
I2552	A-5
I2553	B-7
VARIABLE RESISTOR	
IV2103	B-5
IV2105	B-7
IV2106	A-7
IV2107	B-6
IV2108	A-7
TEST POINT	
P12P	B-6
P13A	C-5
P13a	C-7
P41P	B-6
P46B	C-6
P46R	C-5
P46b	C-7
P46r	B-7
P47B	D-5
P61P	E-5
P91P	C-5
P92P	E-5
P93P	D-5



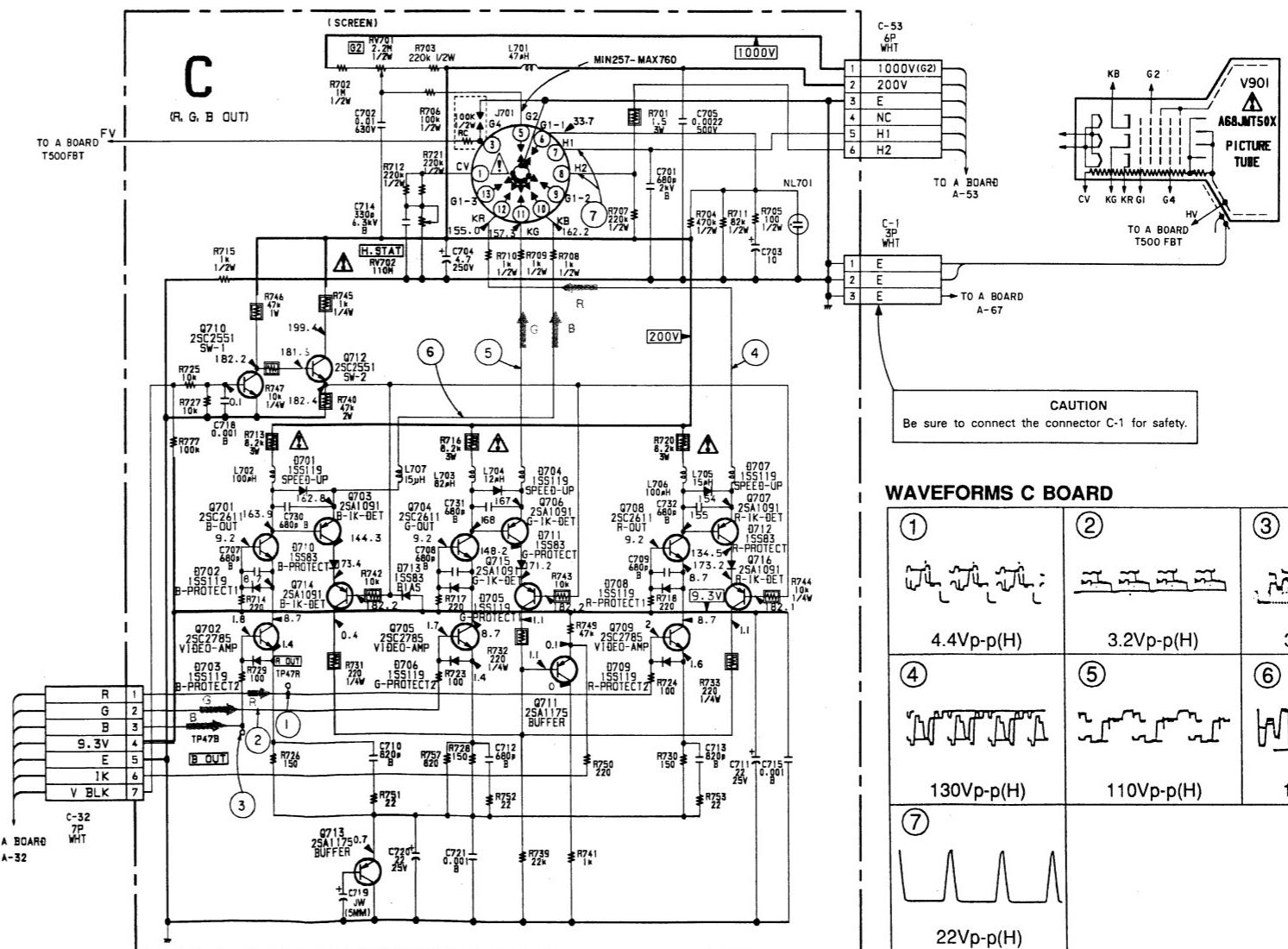
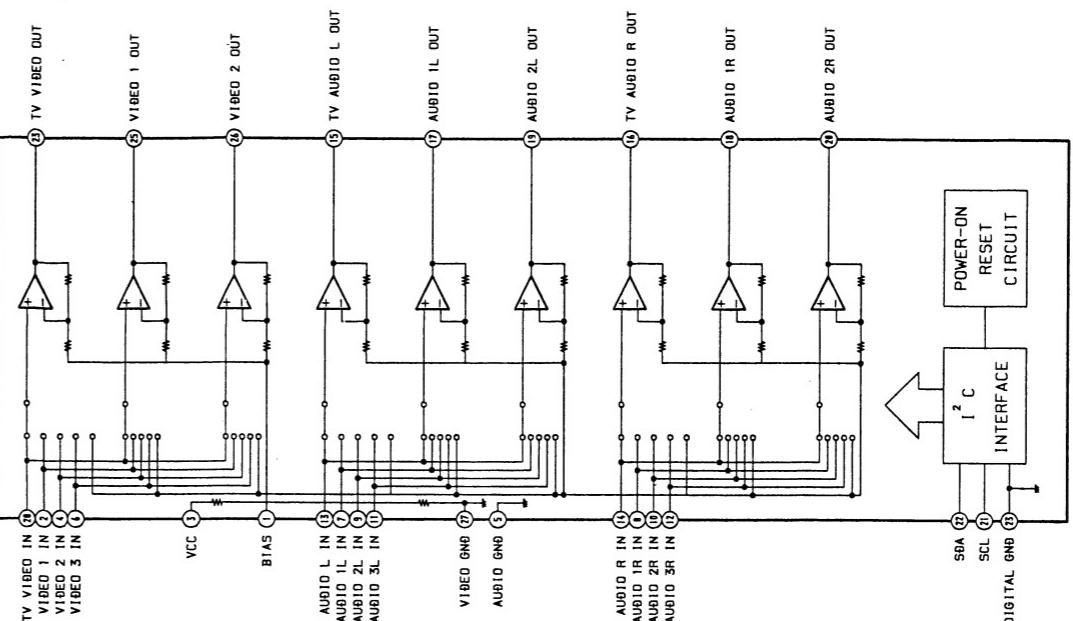
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16



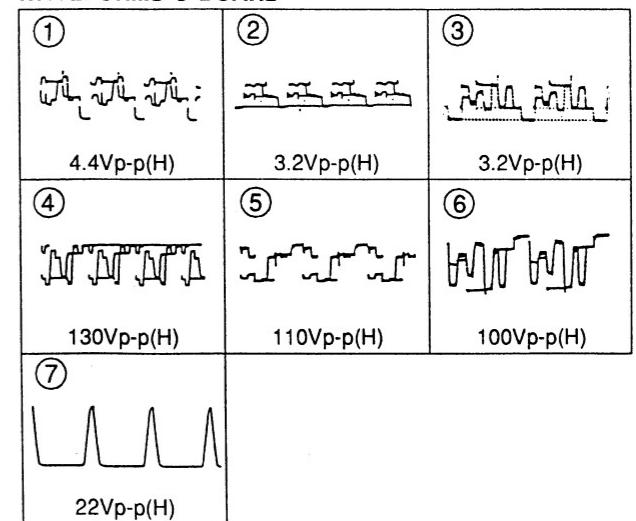
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



U1 BOARD IC444 CXA1114P



WAVEFORMS C BOARD



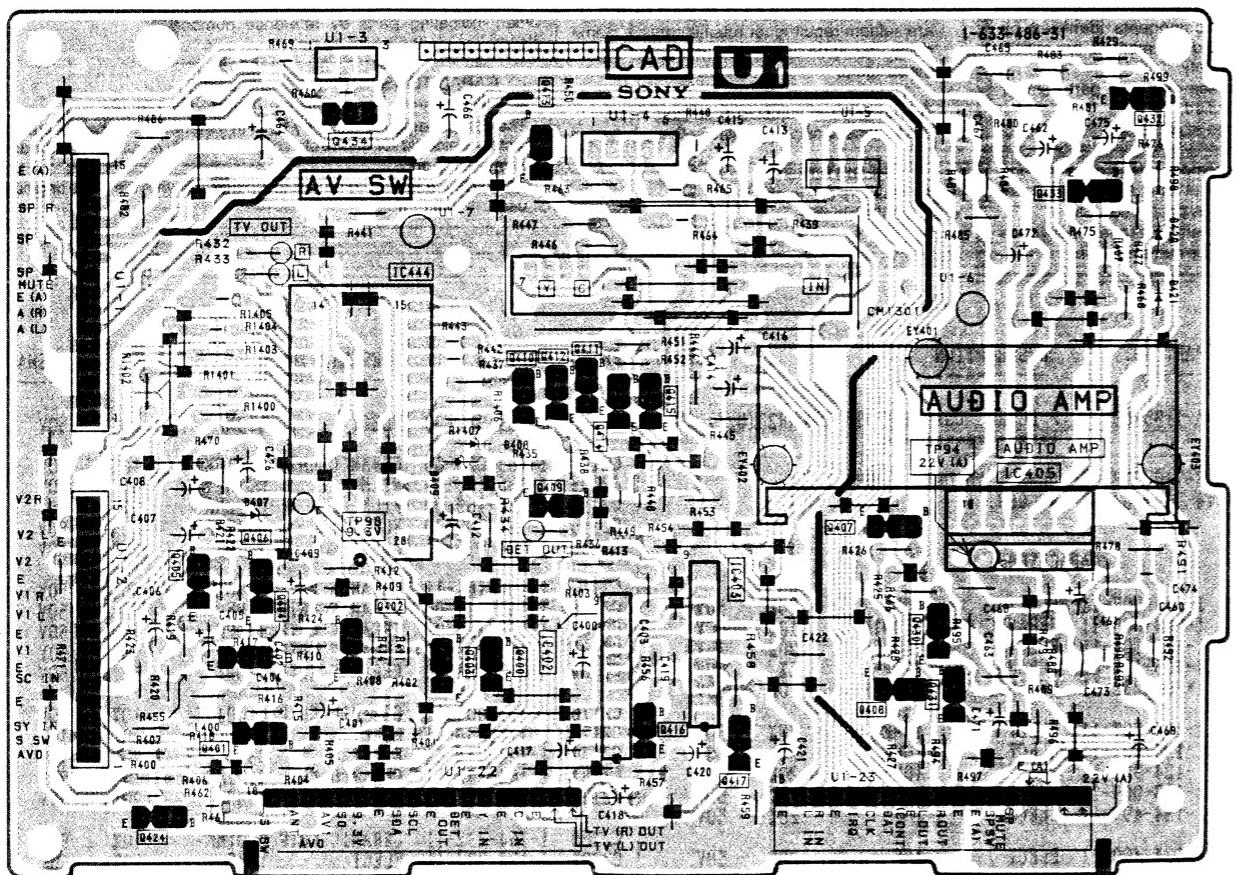
U1 [AV.SW, Y-SW, CHROMA SW, Y/CHROMA MIX, AUDIO AMP]

U2 [VIDEO IN, VIDEO OUT, AUDIO OUT, SPEAKER OUT]

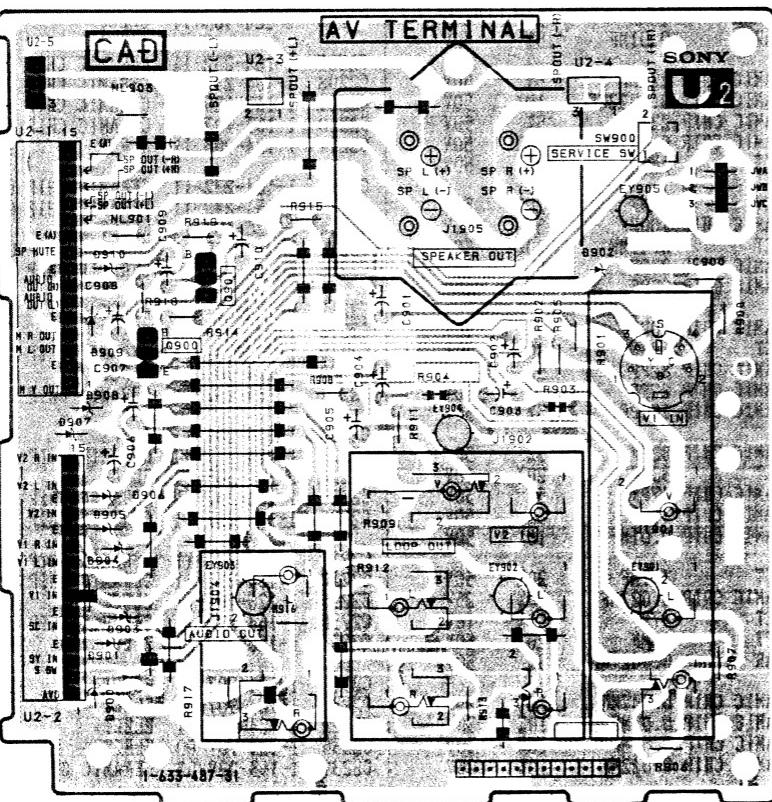
C [R.G.B. OUT]

H [SENSOR, VOL SW, CHANNEL SW,
TV/VIDEO SW, SURROUND/PIP SW]

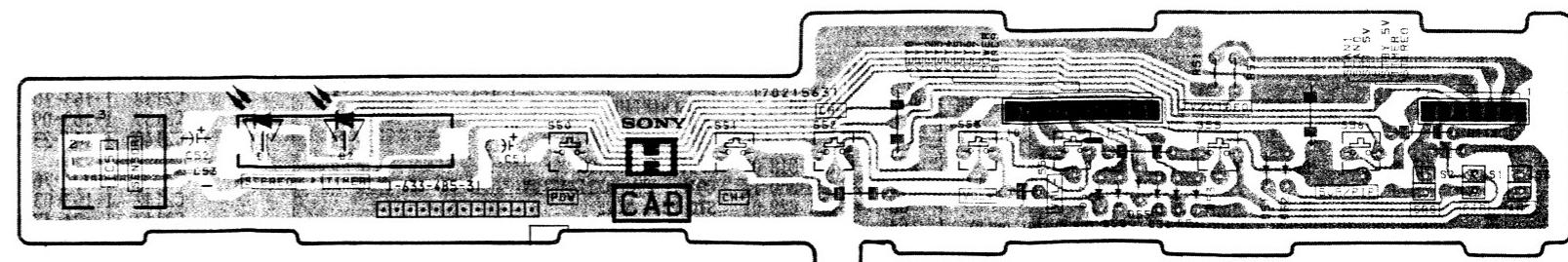
— U1 Board —



— U2 Board —



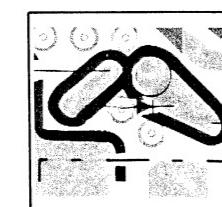
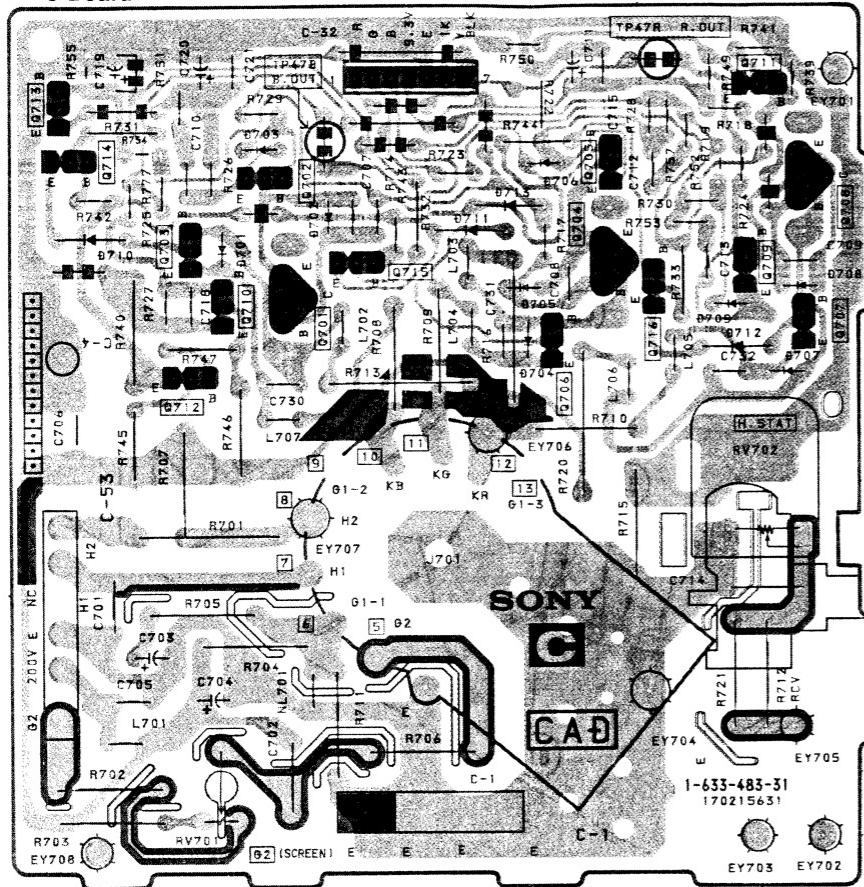
— H Board —



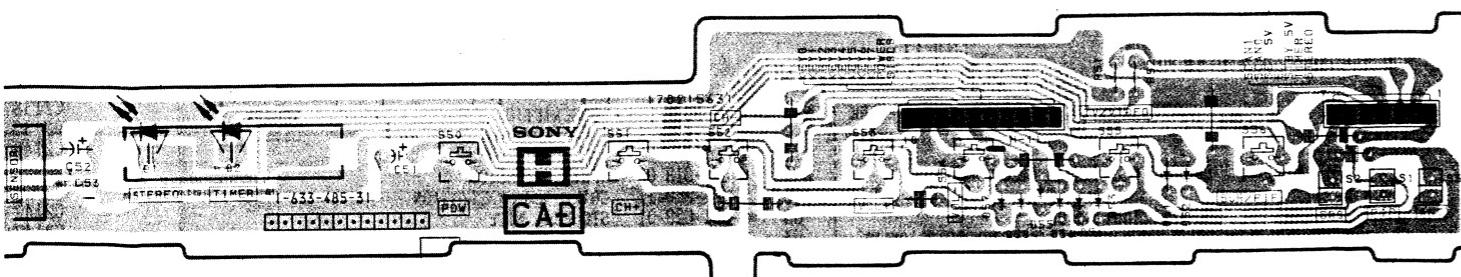
NOTE:

The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

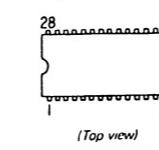
H [SENSOR, VOL SW, CHANNEL SW,
TV/VIDEO SW, SURROUND/PIP SW]

C Board**NOTE:**

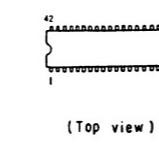
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

**6-4. SEMICONDUCTORS**

CXA1114P



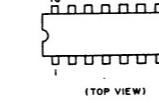
CXA1264AS



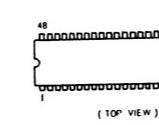
CXA1315P

MB88201-638L

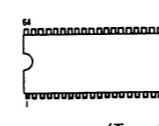
SN74LS123N



CXA1313S



M37100M8-115SP

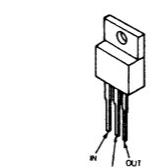


MC7809CT

RC7809FA

RD78M05FA

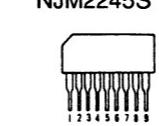
UPC7893HF



MN1280-S



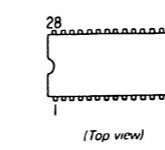
NJM2245S



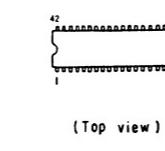
TDA2009A



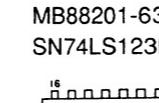
PCD8582



RC4558P

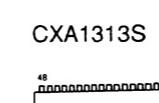


RC78L12A



UPC661G

UPC661G-E1



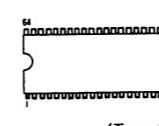
SBX1483-59



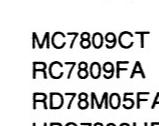
SE-135NS



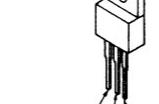
UPC78N05H



UPD4227AGF



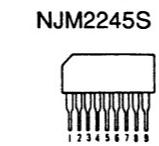
STR-S6301



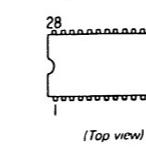
TA8601BN-FA-1



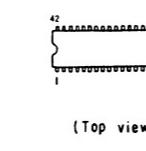
TDA8172



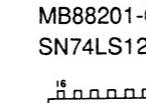
2SA1091



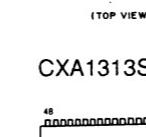
2SA10910



2SA1091R



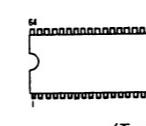
2SC2551



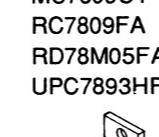
2SC25510



1S2837



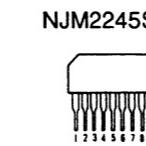
MA152WK



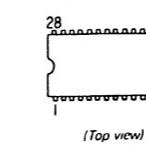
RD12M-B1



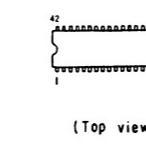
RD3.6M-B1



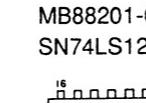
RD5.1M-B1



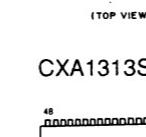
RD18ES-B1



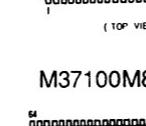
RD18ES-B2



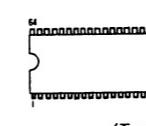
RD24ES-B1



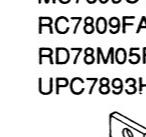
RD33ES-B2



RD5.6ES-B2



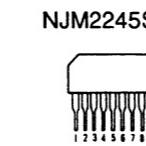
RD6.2ES-B2



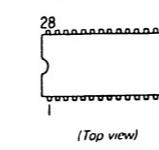
RD9.1ES-B



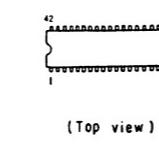
RD9.1ES-B2



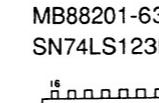
WG713A



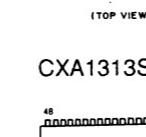
RU4DS



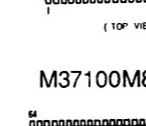
RU4DS



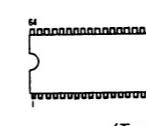
S1VB10-S



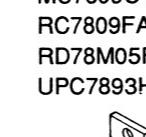
S1VB40



SEL1222R



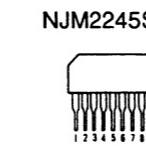
U05G



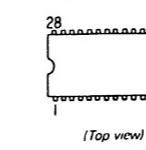
ERB93-02



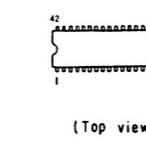
RS3FS



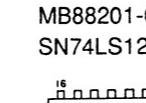
RU-1P



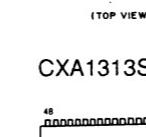
RU-3AM



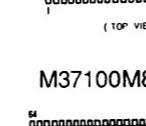
RU30A



RU4AM



2SD1886CA



P

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

SECTION 7 EXPLODED VIEWS

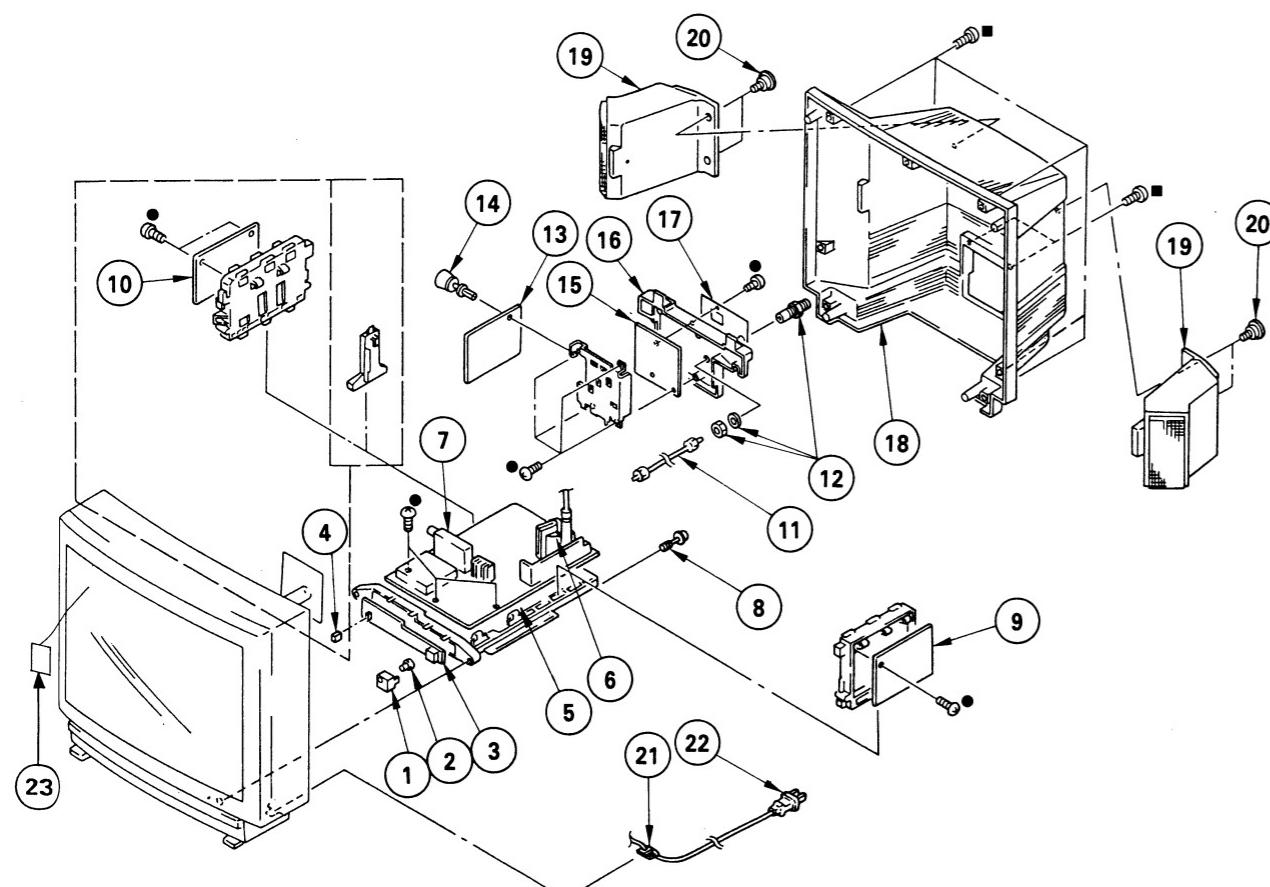
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CHASSIS

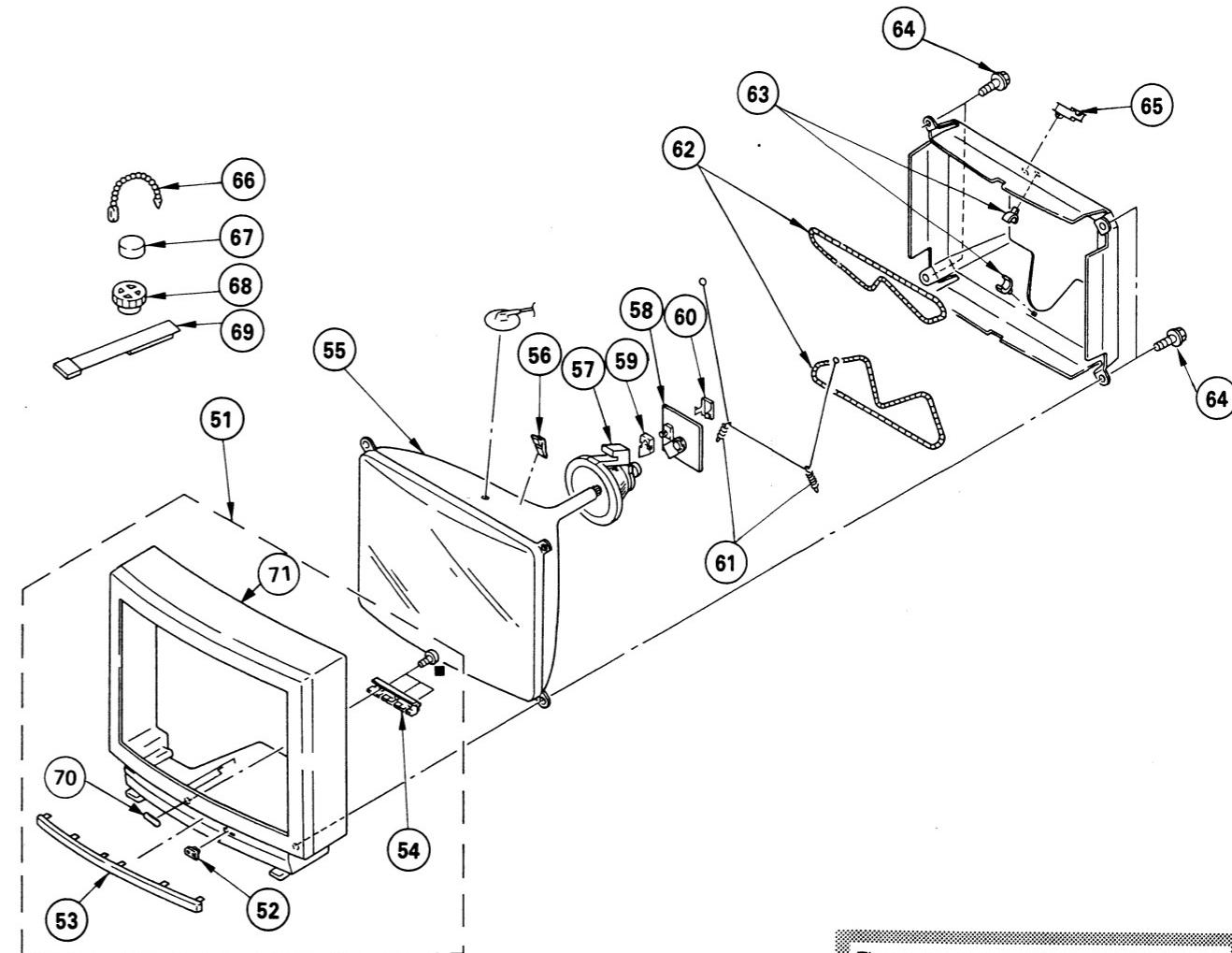
- : BVTP3x12 7-685-648-79
- : BVTP4x16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*4-381-686-01	BRACKET (B), LIGHT GUIDE		12	1-561-306-00	JACK, PIN (F)	
2	*4-374-987-01	GUIDE, LIGHT		13	*A-1394-219-A	U1 BOARD, COMPLETE	
3	*1-633-485-31	H BOARD		14	*4-397-418-01	RIVET, T TYPE	
4	*1-565-514-11	SOCKET, CONNECTOR 2P (KV-27EXR25(U/C) ONLY)		15	*1-633-487-31	U2 BOARD	
5	*A-1296-697-A	A BOARD, COMPLETE		16	4-397-918-01	TERMINAL BOARD, ANTENNA	
6	A.1-439-416-41	TRANSFORMER ASSY, FLYBACK (NX-1604)		17	4-397-908-01	LABEL (A), ANTENNA	
7	A.1-465-384-11	TUNER, ET (BTP-202)		18	4-397-928-01	COVER, REAR	
8	4-319-520-11	SCREW, SPECIAL (+PW4X30)		19	1-544-313-11	SPEAKER UNIT	
9	*A-1316-100-A	G BOARD, COMPLETE		20	4-394-044-01	SCREW, STEP HILO TAPPING	
10	*A-1195-038-A	P BOARD, COMPLETE (KV-27EXR25(U/C) ONLY)		21	A.4-388-328-01	GROMMET, AC CORD	
11	*1-556-945-21	CABLE, P-P		22	A.1-590-492-11	CORD, POWER (WITH CONNECTOR)	
				23	*3-703-703-01	STICKER, SONY SYMBOL (50)	

7-2. PICTURE TUBE

■ : BVTP4x16 7-685-663-79



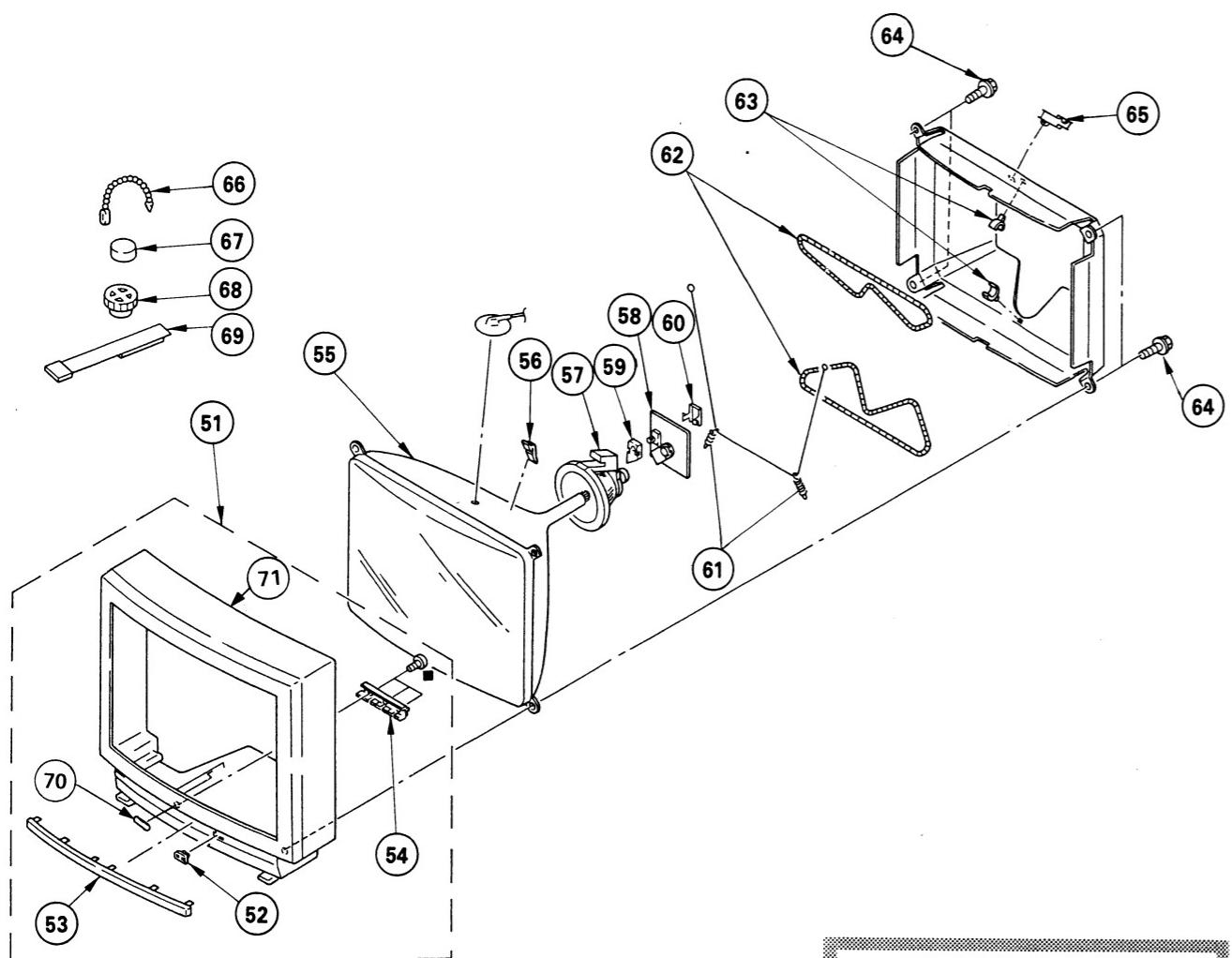
The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4397-906-1	CABINET ASSY (WITH BEZEL ASSY)		61	4-369-318-00	SPRING, TENSION	
		52~54, 70~72		62	A.1-426-350-11	COIL, DEMAGNETIZATION	
				63	*4-371-629-01	STOPPER, WIRE	
				64	4-390-505-01	SCREW (7), TAPPING	
				65	*4-387-284-01	HOLDER, LEAD	
				66	4-308-870-00	CLIP, LEAD WIRE	
				67	1-452-032-00	MAGNET, DISK; 10MM ϕ	
				68	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
				69	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
				70	4-394-048-01	EMBLEM (NO.9), SONY	
				71	4-397-931-01	BEZNET (KV-27EXR20(U) ONLY)	
					4-397-931-12	BEZNET (KV-27EXR25(U/C) ONLY)	

7-2. PICTURE TUBE

■ : BVTP4x16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4397-906-1	CABINET ASSY (WITH BEZEL ASSY)		61	4-369-318-00	SPRING, TENSION	
		52-54, 70-72		62	A.1-426-350-11	COIL, DEMAGNETIZATION	
52	*4-397-927-01	PLATE, LIGHT GUIDE		63	*4-371-629-01	STOPPER, WIRE	
53	4-397-929-01	PANEL, ORNAMENTAL (KV-27EXR20(U) ONLY)		64	4-390-505-01	SCREW (7), TAPPING	
	4-397-929-11	PANEL, ORNAMENTAL (KV-27EXR25(U/C) ONLY)		65	*4-387-284-01	HOLDER, LEAD	
54	X-4397-910-1	BUTTON ASSY, MULTI		66	4-308-870-00	CLIP, LEAD WIRE	
55	A.8-737-753-05	PICTURE TUBE (A68JMT50X)		67	1-452-032-00	MAGNET, DISK; 10MM Ø	
56	3-704-495-01	SPACER, DY		68	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
57	A.1-451-275-31	DEFLECTION YOKE (Y28PPA)		69	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
58	*A-1331-055-A	C BOARD, COMPLETE		70	4-394-048-01	EMBLEM (NO.9), SONY	
59	*4-379-167-01	COVER (MAIN), CV		71	4-397-931-01	BEZNET (KV-27EXR20(U) ONLY)	
60	*4-379-160-01	COVER (REAR LID), CV			4-397-931-12	BEZNET (KV-27EXR25(U/C) ONLY)	

P

NOTE:

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number,
please include the board name.

SECTION 8
ELECTRICAL PARTS LIST

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- RESISTORS
 - All resistors are in ohms
 - F: nonflammable
- CAPACITORS
 - MF: μ F, PF: $\mu\mu$ F
 - COILS
 - MMH: mH, UH: μ H
- The components identified by \square in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
	*A-1195-038-A	P BOARD, COMPLETE (KV-27EXR25(U/C) ONLY)	*****	C2151	1-123-382-00	ELECT	3.3MF 20% 50V
	3-710-578-01	COVER, VOLUME, 6 MOLD		C2152	1-163-023-00	CERAMIC CHIP	0.015MF 10% 50V
	*4-363-404-00	HOLDER, IC		C2153	1-136-165-00	FILM	0.1MF 5% 50V
				C2154	1-136-169-00	FILM	0.22MF 5% 50V
				C2155	1-124-902-00	ELECT	0.47MF 20% 50V
				C2156	1-124-925-11	ELECT	2.2MF 20% 50V
				C2157	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
				C2158	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
				C2162	1-163-123-00	CERAMIC CHIP	180PF 5% 50V
				C2163	1-163-123-00	CERAMIC CHIP	180PF 5% 50V
				C2164	1-163-123-00	CERAMIC CHIP	180PF 5% 50V
				C2176	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V
				C2178	1-124-034-51	ELECT	33MF 20% 16V
				C2179	1-124-034-51	ELECT	33MF 20% 16V
				C2181	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2182	1-124-477-11	ELECT	47MF 20% 16V
				C2200	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2201	1-124-907-11	ELECT	10MF 20% 50V
				C2202	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V
				C2205	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2206	1-124-903-11	ELECT	1MF 20% 50V
				C2207	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2208	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2209	1-163-129-00	CERAMIC CHIP	330PF 5% 50V
				C2210	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
				C2211	1-124-903-11	ELECT	1MF 20% 50V
				C2212	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2213	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2214	1-126-101-11	ELECT	100MF 20% 16V
				C2215	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V
				C2216	1-163-129-00	CERAMIC CHIP	330PF 5% 50V
				C2217	1-124-907-11	ELECT	10MF 20% 50V
				C2218	1-126-101-11	ELECT	100MF 20% 16V
				C2219	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2220	1-124-903-11	ELECT	1MF 20% 50V
				C2221	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2222	1-126-101-11	ELECT	100MF 20% 16V
				C2223	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
				C2224	1-124-903-11	ELECT	1MF 20% 50V
				C2225	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2226	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2227	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2228	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2229	1-126-101-11	ELECT	100MF 20% 16V
				C2230	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
				C2231	1-126-101-11	ELECT	100MF 20% 16V
				C2232	1-124-907-11	ELECT	10MF 20% 50V
				C2233	1-124-907-11	ELECT	10MF 20% 50V
				C2234	1-124-907-11	ELECT	10MF 20% 50V
				C2235	1-124-767-00	ELECT	2.2MF 20% 50V
				C2239	1-163-038-00	CERAMIC CHIP	0.1MF 25V

The components identified by shading and mark Δ are critical for safety.
 Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
 Ne les remplacer que par une pièce portant le numéro spécifié.

P

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
C2240	1-163-038-00	CERAMIC CHIP 0.1MF	25V	IC2204	8-759-149-90	IC UPD42272AGF					
C2241	1-163-038-00	CERAMIC CHIP 0.1MF	25V	IC2206	8-759-148-68	IC UPC661G					
C2242	1-124-907-11	ELECT 10MF	20% 50V	IC2601 Δ 8-759-982-31	IC RC78M05FA						
C2243	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	IC2602 Δ 8-759-982-26	IC RC78L12A						
C2304	1-124-034-51	ELECT 33MF	20% 16V	IC2603 Δ 8-759-030-99	IC MC7809CT						
C2601	1-126-101-11	ELECT 100MF	20% 16V	L2101	1-408-424-00	INDUCTOR	180UH				
C2602	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	L2102	1-408-413-00	INDUCTOR	22UH				
C2603	1-126-101-11	ELECT 100MF	20% 16V	L2103	1-408-415-00	INDUCTOR	33UH				
C2604	1-126-101-11	ELECT 100MF	20% 16V	L2104	1-408-424-00	INDUCTOR	180UH				
C2605	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	L2105	1-408-163-00	INDUCTOR	5.6MMH				
C2606	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	L2106	1-408-415-00	INDUCTOR	33UH				
C2607	1-126-101-11	ELECT 100MF	20% 16V	L2109	1-408-421-00	INDUCTOR	100UH				
C2608	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	L2110	1-408-418-00	INDUCTOR	56UH				
C2609	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	L2200	1-408-421-00	INDUCTOR	100UH				
C2610	1-126-101-11	ELECT 100MF	20% 16V	L2201	1-408-421-00	INDUCTOR	100UH				
C2611	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	L2601	1-408-427-00	INDUCTOR	330UH				
C2612	1-126-101-11	ELECT 100MF	20% 16V								
C2613	1-124-478-11	ELECT 100MF	20% 25V								
<DIODE>											
D2011	8-719-105-51	DIODE RD3.6M-B1		<CONNECTOR>							
D2012	8-719-400-18	DIODE MA152WK		P4	*1-564-505-11	PLUG, CONNECTOR 2P					
D2102	8-719-400-18	DIODE MA152WK		P31	*1-564-515-11	PLUG, CONNECTOR 12P					
D2103	8-719-400-18	DIODE MA152WK		P65	*1-564-507-11	PLUG, CONNECTOR 4P					
D2106	8-719-400-18	DIODE MA152WK		<TRANSISTOR>							
D2107	8-719-400-18	DIODE MA152WK		Q2101	8-729-216-22	TRANSISTOR 2SA1162-G					
D2108	8-719-302-43	DIODE EL1Z		Q2102	8-729-216-22	TRANSISTOR 2SA1162-G					
D2130	8-719-400-18	DIODE MA152WK		Q2103	8-729-216-22	TRANSISTOR 2SA1162-G					
D2131	8-719-105-82	DIODE RD5.1M-B2		Q2104	8-729-100-66	TRANSISTOR 2SC1623-L6					
D2550	8-719-106-16	DIODE RD6.8M-B1		Q2105	8-729-100-66	TRANSISTOR 2SC1623-L6					
D2551	8-719-106-16	DIODE RD6.8M-B1		Q2106	8-729-100-66	TRANSISTOR 2SC1623-L6					
D2552	8-719-106-70	DIODE RD12M-B1		Q2107	8-729-100-66	TRANSISTOR 2SC1623-L6					
D2553	8-719-106-70	DIODE RD12M-B1		Q2108	8-729-100-66	TRANSISTOR 2SC1623-L6					
<FILTER>											
FL2204	1-249-377-11	CARBON 0.47 5%	1/4W F	Q2109	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2205	1-404-892-11	COIL		Q2114	8-729-216-22	TRANSISTOR 2SA1162-G					
FL2206	1-404-893-11	COIL		Q2115	8-729-216-22	TRANSISTOR 2SA1162-G					
FL2207	1-236-071-11	ENCAPSULATED COMPONENT		Q2116	8-729-216-22	TRANSISTOR 2SA1162-G					
FL2208	1-236-071-11	ENCAPSULATED COMPONENT		Q2117	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2209	1-249-377-11	CARBON 0.47 5%	1/4W F	Q2119	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2210	1-236-129-11	ENCAPSULATED COMPONENT		Q2120	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2211	1-249-377-11	CARBON 0.47 5%	1/4W F	Q2121	8-729-271-32	TRANSISTOR 2SC2713-L					
FL2212	1-249-377-11	CARBON 0.47 5%	1/4W F	Q2122	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2213	1-249-377-11	CARBON 0.47 5%	1/4W F	Q2123	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2214	1-249-377-11	CARBON 0.47 5%	1/4W F	Q2125	8-729-216-22	TRANSISTOR 2SA1162-G					
FL2215	1-236-163-11	ENCAPSULATED COMPONENT		Q2130	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2216	1-236-163-11	ENCAPSULATED COMPONENT		Q2131	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2217	1-249-377-11	CARBON 0.47 5%	1/4W F	Q2133	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2218	1-236-129-11	ENCAPSULATED COMPONENT		Q2134	8-729-100-66	TRANSISTOR 2SC1623-L6					
FL2220	1-236-163-11	ENCAPSULATED COMPONENT		Q2139	8-729-216-22	TRANSISTOR 2SA1162-G					
FL2221	1-236-163-11	ENCAPSULATED COMPONENT		Q2200	8-729-100-66	TRANSISTOR 2SC1623-L6					
<IC>											
I C2000	8-752-035-53	IC CXA1315P		Q2201	8-729-216-22	TRANSISTOR 2SA1162-G					
I C2102	8-759-901-23	IC SN74LS123N		Q2202	8-729-216-22	TRANSISTOR 2SA1162-G					
I C2103	8-759-234-63	IC TA8601BN-FA-1		Q2203	8-729-216-22	TRANSISTOR 2SA1162-G					
I C2104	8-759-989-67	IC SN74LS19AN		Q2204	8-729-216-22	TRANSISTOR 2SA1162-G					
I C2201	8-759-148-69	IC UPD6901G		Q2232	8-729-100-66	TRANSISTOR 2SC1623-L6					
I C2202	8-759-148-69	IC UPD6901G		Q2244	8-729-100-66	TRANSISTOR 2SC1623-L6					
I C2203	8-759-148-69	IC UPD6901G		Q2245	8-729-100-66	TRANSISTOR 2SC1623-L6					

P

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<RESISTOR>							
JR1	1-216-295-00	METAL GLAZE	0 5% 1/10W	R2165	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR2	1-216-295-00	METAL GLAZE	0 5% 1/10W	R2166	1-216-085-00	METAL GLAZE	33K 5% 1/10W
JR3	1-216-295-00	METAL GLAZE	0 5% 1/10W	R2167	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
JR4	1-216-295-00	METAL GLAZE	0 5% 1/10W	R2168	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R2000	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2169	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2001	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2170	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2002	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2171	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2003	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2172	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2004	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2173	1-216-025-00	METAL GLAZE	100 5% 1/10W
R2006	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R2174	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2008	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2175	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R2009	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R2177	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2010	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2178	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2011	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2179	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R2012	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2180	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R2013	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2181	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R2108	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R2182	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2109	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R2183	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R2110	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R2184	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R2111	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W	R2185	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R2112	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W	R2186	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R2113	1-215-425-00	METAL	1.5K 1% 1/4W	R2187	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R2114	1-249-418-11	CARBON	1.2K 5% 1/4W	R2188	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R2115	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R2189	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R2116	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R2190	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R2117	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R2191	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R2118	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R2192	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2119	1-216-033-00	METAL GLAZE	220 5% 1/10W	R2193	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R2120	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R2194	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R2121	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R2195	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R2122	1-216-656-11	METAL CHIP	1.6K 0.50% 1/10W	R2196	1-216-294-00	METAL GLAZE	10M 5% 1/8W
R2123	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R2197	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R2124	1-215-434-00	METAL	3.6K 1% 1/4W	R2198	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R2125	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R2199	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R2126	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R2200	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2127	1-216-655-11	METAL CHIP	1.5K 0.50% 1/10W	R2201	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2128	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R2202	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2129	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R2203	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2130	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R2204	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2131	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R2205	1-216-295-00	METAL GLAZE	0 5% 1/10W
R2132	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R2207	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R2133	1-216-037-00	METAL GLAZE	330 5% 1/10W	R2208	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R2134	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2209	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R2135	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R2210	1-216-039-00	METAL GLAZE	390 5% 1/10W
R2136	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2211	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2137	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R2212	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2139	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R2213	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R2140	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R2214	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2141	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2215	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2142	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R2216	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2143	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R2217	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2144	1-216-041-00	METAL GLAZE	470 5% 1/10W	R2218	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2145	1-249-377-11	CARBON	0.47 5% 1/4W F	R2219	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2146	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R2220	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R2147	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R2221	1-216-039-00	METAL GLAZE	390 5% 1/10W
R2148	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R2222	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2149	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2223	1-216-033-00	METAL GLAZE	220 5% 1/10W
R2150	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R2224	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2152	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2225	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2153	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R2226	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2154	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R2227	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R2157	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R2228	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
				R2229	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W

P A

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R2230	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R2552	1-216-633-11	METAL CHIP	180 0.50% 1/10W
R2231	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2232	1-216-039-00	METAL GLAZE	390 5% 1/10W				
R2233	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R2234	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R2236	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV2103	1-238-013-11	RES, ADJ, CARBON 2.2K	
R2237	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV2105	1-238-013-11	RES, ADJ, CARBON 2.2K	
R2238	1-216-037-00	METAL GLAZE	330 5% 1/10W	RV2106	1-238-017-11	RES, ADJ, CARBON 22K	
R2239	1-216-037-00	METAL GLAZE	330 5% 1/10W	RV2107	1-238-016-11	RES, ADJ, CARBON 10K	
R2240	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	RV2108	1-238-012-11	RES, ADJ, CARBON 1K	
R2241	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV2200	1-238-023-11	RES, ADJ, CARBON 470K	
R2242	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV2201	1-238-023-11	RES, ADJ, CARBON 470K	
R2243	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2244	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2245	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2246	1-216-049-00	METAL GLAZE	1K 5% 1/10W	X2101	1-567-505-11	OSCILLATOR, CRYSTAL	
R2247	1-216-049-00	METAL GLAZE	1K 5% 1/10W	X2102	1-577-706-11	VIBRATOR, CERAMIC	
R2248	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2249	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2250	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2251	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2252	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R2253	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R2254	1-216-025-00	METAL GLAZE	100 5% 1/10W				
R2255	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2256	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2257	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2258	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R2259	1-216-039-00	METAL GLAZE	390 5% 1/10W				
R2260	1-216-031-00	METAL GLAZE	180 5% 1/10W				
R2261	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R2262	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R2501	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	A11	*1-564-513-11	PLUG, CONNECTOR 10P	
R2502	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	A12	*1-564-510-11	PLUG, CONNECTOR 7P	
R2503	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	A22	*1-565-509-11	CONNECTOR, BOARD TO BOARD 18P	
R2504	1-216-073-00	METAL GLAZE	10K 5% 1/10W	A23	*1-565-509-11	CONNECTOR, BOARD TO BOARD 18P	
R2505	1-216-037-00	METAL GLAZE	330 5% 1/10W	A24	*1-564-508-11	PLUG, CONNECTOR 5P	
R2506	1-216-095-00	METAL GLAZE	82K 5% 1/10W	A31	*1-564-515-11	PLUG, CONNECTOR 12P	
R2507	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	A32	*1-564-510-11	PLUG, CONNECTOR 7P	
R2508	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	A51	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
R2509	1-216-025-00	METAL GLAZE	100 5% 1/10W	A52	*1-568-536-11	PLUG (MINIATURE D) 6P	
R2510	1-216-123-11	METAL GLAZE	1.2M 5% 1/10W	A53	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
R2511	1-216-121-00	METAL GLAZE	1M 5% 1/10W	A55	*1-508-767-00	PIN, CONNECTOR (5MM PITCH) 5P	
R2512	1-216-101-00	METAL GLAZE	150K 5% 1/10W	A56	*1-559-991-21	CONNECTOR ASSY 1P	
R2513	1-216-033-00	METAL GLAZE	220 5% 1/10W	A61	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
R2514	1-216-029-00	METAL GLAZE	150 5% 1/10W	A63	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P	
R2515	1-216-049-00	METAL GLAZE	1K 5% 1/10W	A64	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
R2516	1-216-037-00	METAL GLAZE	330 5% 1/10W	A65	*1-564-507-11	PLUG, CONNECTOR 4P	
R2517	1-216-075-00	METAL GLAZE	12K 5% 1/10W	A75	*1-580-843-11	PIN, CONNECTOR (POWER)	
R2519	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R2520	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R2521	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R2522	1-216-295-00	METAL GLAZE	0 5% 1/10W				
R2523	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	C101	1-124-907-11	ELECT	10MF 20% 50 V
R2524	1-216-033-00	METAL GLAZE	220 5% 1/10W	C102	1-126-233-11	ELECT	22MF 20% 25 V
R2525	1-216-033-00	METAL GLAZE	220 5% 1/10W	C103	1-124-360-00	ELECT	1000MP 20% 16 V
R2526	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C104	1-126-176-11	ELECT	220MF 20% 10 V
R2527	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C105	1-126-101-11	ELECT	100MF 20% 10 V
R2528	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C106	1-102-121-00	CERAMIC	0.0022MF 10% 50 V
R2529	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C107	1-102-121-00	CERAMIC	0.0022MF 10% 50 V
R2530	1-215-857-11	METAL OXIDE	10 5% 1W	C108	1-102-129-00	CERAMIC	0.01MF 10% 50 V
R2540	1-216-077-00	METAL GLAZE	15K 5% 1/10W	C110	1-162-215-31	CERAMIC	47PF 5% 50 V
R2541	1-216-077-00	METAL GLAZE	15K 5% 1/10W	C112	1-124-925-11	ELECT	2.2MF 20% 50 V
R2542	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C113	1-102-121-00	CERAMIC	0.0022MF 10% 50 V
R2550	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C114	1-124-907-11	ELECT	10MF 20% 50 V
R2551	1-216-295-00	METAL GLAZE	0 5% 1/10W	C116	1-102-973-00	CERAMIC	100PF 5% 50 V

A

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark **Δ** are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
C118	1-102-973-00	CERAMIC	100PF	5%	50V	C315	1-136-157-00	FILM	0.022MF	5%	50V
C119	1-130-728-00	FILM	0.0022MF	5%	50V	C316	1-124-902-00	ELECT	0.47MF	20%	50V
C120	1-119-160-00	ELECT	470MF		10V	C317	1-124-360-00	ELECT	1000MF	20%	16V
C121	1-102-976-00	CERAMIC	180PF	5%	50V	C318	1-130-471-00	MYLAR	0.001MF	5%	50V
C122	1-102-973-00	CERAMIC	100PF	5%	50V	C319	1-124-903-11	ELECT	1MF	20%	50V
C123	1-124-477-11	ELECT	47MF	20%	16V	C320	1-130-479-00	MYLAR	0.0047MF	5%	50V
C124	1-136-161-00	FILM	0.047MF	5%	50V	C321	1-102-114-00	CERAMIC	470PF	10%	50V
C125	1-162-286-31	CERAMIC	220PF	10%	50V	C322	1-102-114-00	CERAMIC	470PF	10%	50V
C126	1-124-903-11	ELECT	1MF	20%	50V	C324	1-124-903-11	ELECT	1MF	20%	50V
C127	1-102-978-00	CERAMIC	220PF	5%	50V	C325	1-136-153-00	FILM	0.01MF	5%	50V
C128	1-102-129-00	CERAMIC	0.01MF	10%	50V	C326	1-124-903-11	ELECT	1MF	20%	50V
C129	1-101-006-00	CERAMIC	0.047MF		50V	C327	1-162-117-00	CERAMIC	100PF	10%	500V
C130	1-101-005-00	CERAMIC	0.022MF		50V	C328	1-124-902-00	ELECT	0.47MF	20%	50V
C131	1-101-005-00	CERAMIC	0.022MF		50V	C329	1-124-477-11	ELECT	47MF	20%	16V
C132	1-102-129-00	CERAMIC	0.01MF	10%	50V	C330	1-102-116-00	CERAMIC	680PF	10%	50V
C134	1-136-165-00	FILM	0.1MF	5%	50V	C332	1-136-169-00	FILM	0.22MF	5%	50V
C135	1-136-173-00	FILM	0.47MF	5%	50V	C333	1-136-169-00	FILM	0.22MF	5%	50V
C136	1-124-477-11	ELECT	47MF	20%	25V	C334	1-136-157-00	FILM	0.022MF	5%	50V
C241	1-124-907-11	ELECT	10MF	20%	50V	C335	1-124-903-11	ELECT	1MF	20%	50V
C251	1-124-903-11	ELECT	1MF	20%	50V	C336	1-124-907-11	ELECT	10MF	20%	50V
C337	1-124-798-11	ELECT	1MF	20%	160V	C337	1-124-798-11	ELECT	1MF	20%	160V
C252	1-136-157-00	FILM	0.022MF	5%	50V	C338	1-136-153-00	FILM	0.01MF	5%	50V
C253	1-124-903-11	ELECT	1MF	20%	50V	C339	1-124-907-11	ELECT	10MF	20%	50V
C254	1-130-309-00	FILM	0.033MF	5%	100V	C340	1-124-902-00	ELECT	0.47MF	20%	50V
C255	1-124-903-11	ELECT	1MF	20%	50V	C341	1-101-005-00	CERAMIC	0.022MF		50V
C256	1-124-478-11	ELECT	100MF	20%	25V	C342	1-124-477-11	ELECT	47MF	20%	16V
C257	1-124-927-11	ELECT	4.7MF	20%	50V	C343	1-124-477-11	ELECT	47MF	20%	16V
C258	1-124-902-00	ELECT	0.47MF	20%	50V	C344	1-124-120-11	ELECT	220MF	20%	16V
C259	1-124-903-11	ELECT	1MF	20%	50V	C345	1-124-925-11	ELECT	2.2MF	20%	50V
C261	1-131-347-00	TANTALUM	1MF	20%	16V	C346	1-124-925-11	ELECT	2.2MF	20%	50V
C262	1-124-903-11	ELECT	1MF	20%	50V	C347	1-126-103-11	ELECT	470MF	20%	16V
C263	1-124-903-11	ELECT	1MF	20%	50V	C351	1-101-888-00	CERAMIC	68PF	5%	50V
C264	1-124-907-11	ELECT	10MF	20%	50V	C352	1-102-114-00	CERAMIC	470PF	10%	50V
C265	1-136-170-00	FILM	0.27MF	5%	50V	C354	1-126-101-11	ELECT	100MF	20%	16V
C266	1-126-320-11	ELECT	10MF	20%	16V	C500	1-130-475-00	MYLAR	0.0022MF	5%	50V
C267	1-131-368-00	TANTALUM	3.3MF	10%	16V	C501	1-124-902-00	ELECT	0.47MF	20%	50V
C268	1-124-903-11	ELECT	1MF	20%	50V	C502	1-102-244-00	CERAMIC	220PF	10%	500V
C269	1-131-347-00	TANTALUM	1MF	20%	16V	C503	1-102-244-00	CERAMIC	220PF	10%	500V
C270	1-124-903-11	ELECT	1MF	20%	50V	C504	1-106-383-00	MYLAR	0.047MF	200%	200V
C271	1-124-907-11	ELECT	10MF	20%	50V	C505	1-102-030-00	CERAMIC	330PF	10%	500V
C272	1-124-903-11	ELECT	1MF	20%	50V	C506	▲ 1-162-115-91	CERAMIC	330PF	10%	2KV
C273	1-124-477-11	ELECT	47MF	20%	16V	C507	▲ 1-137-024-11	FILM	0.02MF	3%	2KV
C274	1-130-475-00	MYLAR	0.0022MF	5%	50V	C509	▲ 1-136-313-51	FILM	0.047MF	5%	400V
C275	1-130-475-00	MYLAR	0.0022MF	5%	50V	C512	1-124-927-11	ELECT	4.7MF	20%	50V
C276	1-102-074-00	CERAMIC	0.001MF	10%	50V	C513	1-102-228-00	CERAMIC	470PF	10%	500V
C277	1-126-320-11	ELECT	10MF	20%	16V	C516	1-136-113-00	FILM	2MF	5%	200V
C278	1-124-903-11	ELECT	1MF	20%	50V	C517	1-124-634-11	ELECT	1MF	20%	250V
C279	1-124-903-11	ELECT	1MF	20%	50V	C518	1-106-395-00	MYLAR	0.15MF	10%	200V
C281	1-124-907-11	ELECT	10MF	20%	50V	C521	1-136-165-00	FILM	0.1MF	5%	50V
C282	1-124-907-11	ELECT	10MF	20%	50V	C522	1-136-161-00	FILM	0.047MF	5%	50V
C284	1-124-907-11	ELECT	10MF	20%	50V	C523	1-162-318-11	CERAMIC	0.001MF	10%	500V
C301	1-102-973-00	CERAMIC	100PF	5%	50V	C525	1-102-228-00	CERAMIC	470PF	10%	500V
C302	1-124-903-11	ELECT	1MF	20%	50V	C526	1-136-124-00	FILM	0.56MF	5%	400V
C303	1-136-153-00	FILM	0.01MF	5%	50V	C527	1-162-116-00	CERAMIC	680PF	10%	2KV
C304	1-124-234-00	ELECT	22MF	20%	16V	C528	1-162-116-00	CERAMIC	680PF	10%	2KV
C305	1-124-903-11	ELECT	1MF	20%	50V	C529	1-106-359-00	MYLAR	0.0047MF	10%	200V
C306	1-101-006-00	CERAMIC	0.047MF		50V	C536	1-124-907-11	ELECT	10MF	20%	50V
C307	1-102-978-00	CERAMIC	220PF	5%	50V	C538	1-124-927-11	ELECT	4.7MF	20%	50V
C308	1-124-902-00	ELECT	0.47MF	20%	50V	C539	1-124-477-11	ELECT	47MF	20%	25V
C309	1-102-965-00	CERAMIC	39PF	5%	50V	C540	1-124-911-11	ELECT	220MF	20%	50V
C310	1-124-234-00	ELECT	22MF	20%	16V	C541	1-136-165-00	FILM	0.1MF	5%	50V
C311	1-136-165-00	FILM	0.1MF	5%	50V	C542	1-136-161-00	FILM	0.047MF	5%	50V
C312	1-136-165-00	FILM	0.1MF	5%	50V	C545	1-123-932-00	ELECT	4.7MF	20%	160V
C313	1-136-165-00	FILM	0.1MF	5%	50V	C546	1-106-216-00	MYLAR	0.068MF	10%	100V
C314	1-136-169-00	FILM	0.22MF	5%	50V						

A

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK	
C547	1-124-557-11	ELECT	1000MF	20%	25V	D302	8-719-109-89	DIODE RD5.6ES-B2
C548	1-162-114-00	CERAMIC	0.0047MF		2KV	D303	8-719-911-19	DIODE ISS119
C549	1-123-947-00	ELECT	10MF	20%	250V	D304	8-719-110-13	DIODE RD9.1ES-B2
C551 Δ	1-108-433-91	MYLAR	0.1MF	10%	200V	D305	8-719-110-48	DIODE RD18ES-B1
C552	1-123-024-21	ELECT	33MF		160V	D306	8-719-911-19	DIODE ISS119
C553	1-124-557-11	ELECT	1000MF	20%	25V	D307	8-719-911-19	DIODE ISS119
C554	1-102-228-00	CERAMIC	470PF	10%	500V	D308	8-719-110-49	DIODE RD18ES-B2
C555	1-124-477-11	ELECT	47MF	20%	25V	D310	8-719-109-93	DIODE RD6.2ES-B2
C556	1-102-228-00	CERAMIC	470PF	10%	500V	D311	8-719-109-93	DIODE RD6.2ES-B2
C557	1-106-387-00	MYLAR	0.068MF	10%	200V	D500	8-719-911-55	DIODE U05G
C558	1-136-161-00	FILM	0.047MF	5%	50V	D501	8-719-312-71	DIODE RS3FS
C561	1-124-910-11	ELECT	47MF	20%	50V	D502	8-719-911-55	DIODE U05G
C562	1-124-902-00	ELECT	0.47MF	20%	50V	D503	8-719-312-72	DIODE RU30A
C563	1-124-902-00	ELECT	0.47MF	20%	50V	D504	8-719-911-55	DIODE U05G
C565	1-124-903-11	ELECT	1MF	20%	50V	D505	8-719-911-55	DIODE U05G
C573	1-130-479-00	MYLAR	0.0047MF	5%	50V	D506	8-719-312-71	DIODE RS3FS
C601 Δ	1-136-311-51	FILM	0.47MF	20%	125V	D507	8-719-109-93	DIODE RD6.2ES-B2
C603 Δ	1-162-576-51	CERAMIC	0.001MF	10%	400V	D509	8-719-911-19	DIODE ISS119
C604 Δ	1-136-311-51	FILM	0.47MF	20%	125V	D510	8-719-911-55	DIODE U05G
C605 Δ	1-161-953-92	CERAMIC	0.0047MF	20%	400V	D514	8-719-911-19	DIODE ISS119
C606 Δ	1-161-953-92	CERAMIC	0.0047MF	20%	400V	D515	8-719-911-19	DIODE ISS119
C607	1-125-538-11	ELECT(BLOCK)	1000MF	20%	200V	D517	8-719-976-64	DIODE RGP02-17
C608	1-102-125-00	CERAMIC	0.0047MF	10%	50V	D519	8-719-300-33	DIODE RU-3AM
C609	1-102-125-00	CERAMIC	0.0047MF	10%	50V	D520	8-719-979-85	DIODE EGP20G
C610	1-124-480-11	ELECT	470MF	20%	25V	D521	8-719-979-85	DIODE RGP20G
C611	1-124-480-11	ELECT	470MF	20%	25V	D531	8-719-302-43	DIODE EL1Z
C612	1-124-477-11	ELECT	47MF	20%	16V	D540	8-719-110-61	DIODE RD24ES-B1
C613	1-124-478-11	ELECT	100MF	20%	25V	D563	8-719-911-19	DIODE ISS119
C614	1-124-907-11	ELECT	10MF	20%	50V	D601 Δ	8-719-305-07	DIODE RBV-406H
C620	1-124-478-11	ELECT	100MF	20%	25V	D602	8-719-511-40	DIODE S1VB40
C621	1-126-101-11	ELECT	100MF	20%	16V	D603	8-719-911-55	DIODE U05G
C622	1-126-101-11	ELECT	100MF	20%	16V	D604	8-719-911-19	DIODE ISS119
C623	1-126-101-11	ELECT	100MF	20%	16V	D606	8-719-110-78	DIODE RD33ES-B2
C625	1-124-907-11	ELECT	10MF	20%	50V			
C626	1-136-165-00	FILM	0.1MF	5%	50V			
C627	1-124-477-11	ELECT	47MF	20%	16V			
<COMPOSITION CIRCUIT BLOCK>								
CP101	1-236-294-11	NETWORK, RES						
CP102	1-236-491-11	NETWORK, RES, THICK FILM						
CP103	1-236-358-21	NETWORK, RES						
CP104	1-236-479-11	NETWORK, C						
CP106	1-236-301-11	NETWORK, C						
CP107	1-236-491-11	NETWORK, RES, THICK FILM						
CP108	1-236-301-11	NETWORK, C						
CP109	1-236-776-11	NETWORK, RES						
CP110	1-232-680-11	COMPOSITION CIRCUIT BLOCK						
CP301	1-236-730-11	NETWORK, C						
<DIODE>								
D103	8-719-974-81	DIODE 1SV113						
D104	8-719-911-19	DIODE ISS119						
D105	8-719-911-19	DIODE ISS119						
D106	8-719-911-19	DIODE ISS119						
D107	8-719-911-19	DIODE ISS119						
D108	8-719-911-19	DIODE ISS119						
D109	8-719-911-19	DIODE ISS119						
D250	8-719-109-93	DIODE RD6.2ES-B2						
D251	8-719-109-93	DIODE RD6.2ES-B2						
D252	8-719-110-31	DIODE RD12ES-B2						
D300	8-719-911-19	DIODE ISS119						
D301	8-719-109-89	DIODE RD5.6ES-B2						
<IC>								
IC101	8-759-635-34	IC M37100M8-115SP						
IC102	8-759-972-43	IC PCD8582						
IC103	8-759-403-44	IC MN1280-S						
IC104	8-759-978-66	IC MB88201-638L						
IC251	8-752-037-24	IC CXA1264AS						
IC301	8-752-035-52	IC CXA1313S						
IC500	8-759-980-58	IC TDA8172						
IC531	8-759-945-58	IC RC4558P						
IC601	8-759-112-06	IC UPC78N05H						
IC603 Δ	8-759-142-04	IC UPC7893HF						
IC604 Δ	8-759-112-06	IC UPC78N05H						
<IF BLOCK>								
IF201	1-464-755-21	IF BLOCK (IFE-450A)						
<COIL>								
L101	1-410-470-11	INDUCTOR						
L102	1-408-408-00	INDUCTOR						
L103	1-410-669-31	INDUCTOR						
L104	1-408-413-00	INDUCTOR						
L301	1-408-409-00	INDUCTOR						

A

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité.
 Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark **Δ** are critical for safety.
 Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
L501	1-422-613-11	COIL, AIR CORE		R106	1-249-425-11	CARBON	4.7K 5% 1/4W
L503	1-422-613-11	COIL, AIR CORE		R107	1-249-441-11	CARBON	100K 5% 1/4W
L505	1-408-237-00	INDUCTOR 3.3MMH		R108	1-249-437-11	CARBON	47K 5% 1/4W
L506	1-459-104-00	COIL, DUST CORE		R109	1-249-429-11	CARBON	10K 5% 1/4W
L509	1-410-669-31	INDUCTOR 33UH		R110	1-247-903-00	CARBON	1M 5% 1/4W
L510	Δ 1-408-698-21	INDUCTOR 8.2UH		R113	1-249-417-11	CARBON	1K 5% 1/4W
L511	1-408-225-00	INDUCTOR 3.3UH		R114	1-249-435-11	CARBON	33K 5% 1/4W
L512	1-408-225-00	INDUCTOR 3.3UH		R115	1-249-435-11	CARBON	33K 5% 1/4W
L513	1-408-698-00	INDUCTOR 8.2UH		R116	1-249-411-11	CARBON	330 5% 1/4W
L514	1-408-698-00	INDUCTOR 8.2UH		R119	1-249-437-11	CARBON	47K 5% 1/4W
L515	Δ 1-459-224-13	HLC		R120	1-249-417-11	CARBON	1K 5% 1/4W
L517	1-459-075-00	COIL, DYNAMIC CONVERSION CHOKE		R121	1-249-421-11	CARBON	2.2K 5% 1/4W
		<MODULE>		R122	1-249-421-11	CARBON	2.2K 5% 1/4W
				R123	1-249-421-11	CARBON	2.2K 5% 1/4W
				R124	1-249-421-11	CARBON	2.2K 5% 1/4W
PM501	Δ 1-808-968-11	MODULE, PROTECTOR (PM-20)		R125	1-249-421-11	CARBON	2.2K 5% 1/4W
		<TRANSISTOR>		R126	1-249-421-11	CARBON	2.2K 5% 1/4W
				R127	1-247-887-00	CARBON	220K 5% 1/4W
				R128	1-249-421-11	CARBON	2.2K 5% 1/4W
				R129	1-249-421-11	CARBON	2.2K 5% 1/4W
Q101	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R130	1-249-421-11	CARBON	2.2K 5% 1/4W
Q102	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R131	1-249-421-11	CARBON	2.2K 5% 1/4W
Q103	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R132	1-249-421-11	CARBON	2.2K 5% 1/4W
Q105	8-729-119-76	TRANSISTOR 2SA1175-HFE		R133	1-249-409-11	CARBON	220 5% 1/4W
Q106	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R134	1-249-421-11	CARBON	2.2K 5% 1/4W
Q107	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R135	1-249-421-11	CARBON	2.2K 5% 1/4W
Q108	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R136	1-249-421-11	CARBON	2.2K 5% 1/4W
Q130	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R137	1-249-421-11	CARBON	2.2K 5% 1/4W
Q202	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R138	1-249-421-11	CARBON	2.2K 5% 1/4W
Q203	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R139	1-249-421-11	CARBON	2.2K 5% 1/4W
Q301	8-729-119-76	TRANSISTOR 2SA1175-HFE		R140	1-249-421-11	CARBON	2.2K 5% 1/4W
Q302	8-729-119-76	TRANSISTOR 2SA1175-HFE		R141	1-249-421-11	CARBON	2.2K 5% 1/4W
Q303	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R142	1-249-429-11	CARBON	10K 5% 1/4W
Q304	8-729-119-76	TRANSISTOR 2SA1175-HFE		R143	1-249-413-11	CARBON	470 5% 1/4W
Q305	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R144	1-249-429-11	CARBON	10K 5% 1/4W
Q306	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R145	1-249-422-11	CARBON	2.7K 5% 1/4W
Q307	8-729-967-32	TRANSISTOR 2SC2673-Q		R146	1-249-422-11	CARBON	2.7K 5% 1/4W
Q308	8-729-993-72	TRANSISTOR 2SA937-Q		R147	1-249-422-11	CARBON	2.7K 5% 1/4W
Q309	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R148	1-249-437-11	CARBON	47K 5% 1/4W
Q310	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R149	1-249-421-11	CARBON	2.2K 5% 1/4W
Q311	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R150	1-249-425-11	CARBON	4.7K 5% 1/4W
Q312	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R151	1-249-421-11	CARBON	2.2K 5% 1/4W
Q313	8-729-119-76	TRANSISTOR 2SA1175-HFE		R152	1-249-421-11	CARBON	2.2K 5% 1/4W
Q314	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R153	1-249-424-11	CARBON	3.9K 5% 1/4W
Q315	8-729-119-76	TRANSISTOR 2SA1175-HFE		R154	1-249-421-11	CARBON	2.2K 5% 1/4W
Q316	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R155	1-249-421-11	CARBON	2.2K 5% 1/4W
Q317	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R156	1-249-417-11	CARBON	1K 5% 1/4W
Q318	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R157	1-249-417-11	CARBON	1K 5% 1/4W
Q501	8-729-119-80	TRANSISTOR 2SC2688-LK		R158	1-249-417-11	CARBON	1K 5% 1/4W
Q502	8-729-822-65	TRANSISTOR 2SD1886CA		R159	1-249-417-11	CARBON	1K 5% 1/4W
Q504	8-729-119-76	TRANSISTOR 2SA1175-HFE		R161	1-215-892-11	METAL OXIDE	1K 5% 2W F
Q505	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R162	1-249-401-11	CARBON	47 5% 1/4W
Q530	8-729-202-03	TRANSISTOR 2SD1408-Y		R163	1-249-410-11	CARBON	270 5% 1/4W
Q601	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R164	1-249-421-11	CARBON	2.2K 5% 1/4W
Q607	8-729-423-37	TRANSISTOR 2SC3311A-QRS		R165	1-249-437-11	CARBON	47K 5% 1/4W
Q608	8-729-119-76	TRANSISTOR 2SA1175-HFE		R166	1-249-421-11	CARBON	2.2K 5% 1/4W
		<RESISTOR>		R167	1-249-421-11	CARBON	2.2K 5% 1/4W
R101	1-249-417-11	CARBON 1K 5% 1/4W		R168	1-249-421-11	CARBON	2.2K 5% 1/4W
R102	1-249-425-11	CARBON 4.7K 5% 1/4W		R169	1-249-409-11	CARBON	220 5% 1/4W
R103	1-249-409-11	CARBON 220 5% 1/4W		R170	1-249-409-11	CARBON	220 5% 1/4W
R104	1-249-409-11	CARBON 220 5% 1/4W		R171	1-249-421-11	CARBON	2.2K 5% 1/4W
R105	1-249-409-11	CARBON 220 5% 1/4W		R172	1-249-409-11	CARBON	220 5% 1/4W
				R173	1-249-429-11	CARBON	10K 5% 1/4W
				R174	1-249-409-11	CARBON	220 5% 1/4W

A

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R175	1-249-409-11	CARBON	220 5% 1/4W	R321	1-249-405-11	CARBON	100 5% 1/4W
R176	1-249-429-11	CARBON	10K 5% 1/4W	R322	1-249-405-11	CARBON	100 5% 1/4W
R177	1-249-429-11	CARBON	10K 5% 1/4W	R323	1-249-441-11	CARBON	100K 5% 1/4W
R178	1-249-429-11	CARBON	10K 5% 1/4W	R324	1-249-405-11	CARBON	100 5% 1/4W
R179	1-249-425-11	CARBON	4.7K 5% 1/4W	R325	1-249-441-11	CARBON	100K 5% 1/4W
R180	1-249-421-11	CARBON	2.2K 5% 1/4W	R326	1-249-405-11	CARBON	100 5% 1/4W
R181	1-249-421-11	CARBON	2.2K 5% 1/4W	R327	1-249-441-11	CARBON	100K 5% 1/4W
R182	1-249-421-11	CARBON	2.2K 5% 1/4W	R328	1-249-405-11	CARBON	100 5% 1/4W
R183	1-249-421-11	CARBON	2.2K 5% 1/4W	R329	1-249-433-11	CARBON	22K 5% 1/4W
R184	1-249-421-11	CARBON	2.2K 5% 1/4W	R330	1-249-433-11	CARBON	22K 5% 1/4W
R185	1-249-421-11	CARBON	2.2K 5% 1/4W	R331	1-249-433-11	CARBON	22K 5% 1/4W
R186	1-249-421-11	CARBON	2.2K 5% 1/4W	R332	1-249-436-11	CARBON	39K 5% 1/4W
R187	1-249-417-11	CARBON	1K 5% 1/4W	R333	1-249-433-11	CARBON	22K 5% 1/4W
R188	1-249-417-11	CARBON	1K 5% 1/4W	R334	1-249-433-11	CARBON	22K 5% 1/4W
R189	1-249-417-11	CARBON	1K 5% 1/4W	R335	1-249-418-11	CARBON	1.2K 5% 1/4W
R190	1-249-417-11	CARBON	1K 5% 1/4W	R336	1-247-903-00	CARBON	1M 5% 1/4W
R191	1-249-421-11	CARBON	2.2K 5% 1/4W	R337	1-249-405-11	CARBON	100 5% 1/4W
R192	1-249-421-11	CARBON	2.2K 5% 1/4W	R338	1-249-417-11	CARBON	1K 5% 1/4W
R193	1-249-429-11	CARBON	10K 5% 1/4W	R339	1-249-415-11	CARBON	680 5% 1/4W
R194	1-249-429-11	CARBON	10K 5% 1/4W	R341	1-215-457-00	METAL	33K 1% 1/4W
R195	1-249-437-11	CARBON	47K 5% 1/4W	R343	1-249-428-11	CARBON	8.2K 5% 1/4W
R197	1-247-903-00	CARBON	1M 5% 1/4W	R344	1-249-441-11	CARBON	100K 5% 1/4W
R198	1-249-425-11	CARBON	4.7K 5% 1/4W	R345	1-249-429-11	CARBON	10K 5% 1/4W
R251	1-249-409-11	CARBON	220 5% 1/4W	R346	1-249-421-11	CARBON	2.2K 5% 1/4W
R252	1-249-409-11	CARBON	220 5% 1/4W	R347	1-249-405-11	CARBON	100 5% 1/4W
R253	1-249-409-11	CARBON	220 5% 1/4W	R348	1-249-411-11	CARBON	330 5% 1/4W
R254	1-249-409-11	CARBON	220 5% 1/4W	R349	1-259-883-11	CARBON	3.9M 5% 1/4W
R255	1-249-420-11	CARBON	1.8K 5% 1/4W	R350	1-249-438-11	CARBON	56K 5% 1/4W
R256	1-249-405-11	CARBON	100 5% 1/4W	R351	1-249-433-11	CARBON	22K 5% 1/4W
R257	1-249-409-11	CARBON	220 5% 1/4W	R352	1-249-430-11	CARBON	12K 5% 1/4W
R258	1-249-409-11	CARBON	220 5% 1/4W	R353	1-249-441-11	CARBON	100K 5% 1/4W
R259	1-249-409-11	CARBON	220 5% 1/4W	R354	1-247-883-00	CARBON	150K 5% 1/4W
R260	1-249-409-11	CARBON	220 5% 1/4W	R356	1-249-417-11	CARBON	1K 5% 1/4W
R261	1-249-441-11	CARBON	100K 5% 1/4W	R357	1-249-437-11	CARBON	47K 5% 1/4W
R262	1-249-441-11	CARBON	100K 5% 1/4W	R358	1-249-437-11	CARBON	47K 5% 1/4W
R263	1-249-429-11	CARBON	10K 5% 1/4W	R359	1-249-405-11	CARBON	100 5% 1/4W
R264	1-249-441-11	CARBON	100K 5% 1/4W	R360	1-249-413-11	CARBON	470 5% 1/4W
R265	1-249-441-11	CARBON	100K 5% 1/4W	R361	1-249-419-11	CARBON	1.5K 5% 1/4W
R266	1-215-456-00	METAL	30K 1% 1/4W	R362	1-249-409-11	CARBON	220 5% 1/4W
R267	1-249-429-11	CARBON	10K 5% 1/4W	R363	1-249-409-11	CARBON	220 5% 1/4W
R268	1-215-865-11	METAL OXIDE	220 5% 1W F	R364	1-249-409-11	CARBON	220 5% 1/4W
R269	1-249-431-11	CARBON	15K 5% 1/4W	R365	1-249-417-11	CARBON	1K 5% 1/4W
R270	1-249-431-11	CARBON	15K 5% 1/4W	R366	1-249-417-11	CARBON	1K 5% 1/4W
R300	1-249-417-11	CARBON	1K 5% 1/4W	R367	1-247-891-00	CARBON	330K 5% 1/4W
R301	1-249-425-11	CARBON	4.7K 5% 1/4W	R368	1-249-417-11	CARBON	1K 5% 1/4W
R302	1-249-421-11	CARBON	2.2K 5% 1/4W	R370	1-249-405-11	CARBON	100 5% 1/4W
R303	1-249-413-11	CARBON	470 5% 1/4W	R371	1-249-405-11	CARBON	100 5% 1/4W
R304	1-259-883-11	CARBON	3.9M 5% 1/4W	R372	1-249-433-11	CARBON	22K 5% 1/4W
R305	1-249-423-11	CARBON	3.3K 5% 1/4W	R373	1-249-437-11	CARBON	47K 5% 1/4W
R306	1-249-429-11	CARBON	10K 5% 1/4W	R374	1-249-429-11	CARBON	10K 5% 1/4W
R307	1-249-423-11	CARBON	3.3K 5% 1/4W	R375	1-249-418-11	CARBON	1.2K 5% 1/4W
R308	1-249-433-11	CARBON	22K 5% 1/4W	R376	1-249-417-11	CARBON	1K 5% 1/4W
R309	1-249-421-11	CARBON	2.2K 5% 1/4W	R377	1-249-416-11	CARBON	820 5% 1/4W
R310	1-249-417-11	CARBON	1K 5% 1/4W	R378	1-249-409-11	CARBON	220 5% 1/4W
R311	1-215-448-00	METAL	13K 1% 1/4W	R379	1-249-425-11	CARBON	4.7K 5% 1/4W
R312	1-249-432-11	CARBON	18K 5% 1/4W	R380	1-249-420-11	CARBON	1.8K 5% 1/4W
R313	1-215-421-00	METAL	1K 1% 1/4W	R381	1-249-417-11	CARBON	1K 5% 1/4W
R314	1-247-899-11	CARBON	680K 5% 1/4W	R382	1-249-417-11	CARBON	1K 5% 1/4W
R315	1-249-405-11	CARBON	100 5% 1/4W	R383	1-249-421-11	CARBON	2.2K 5% 1/4W
R316	1-249-405-11	CARBON	100 5% 1/4W	R384	1-249-410-11	CARBON	270 5% 1/4W
R317	1-249-405-11	CARBON	100 5% 1/4W	R385	1-249-433-11	CARBON	22K 5% 1/4W
R318	1-249-405-11	CARBON	100 5% 1/4W	R386	1-249-412-11	CARBON	390 5% 1/4W
R319	1-249-405-11	CARBON	100 5% 1/4W	R387	1-249-415-11	CARBON	680 5% 1/4W
R320	1-249-405-11	CARBON	100 5% 1/4W				

A G

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark **Δ** are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R388	1-249-416-11	CARBON	820 5% 1/4W	R604	1-216-425-11	METAL OXIDE	56 5% 1W F
R389	1-249-427-11	CARBON	6.8K 5% 1/4W	R605	1-249-417-11	CARBON	1K 5% 1/4W
R390	1-249-437-11	CARBON	47K 5% 1/4W	R619	1-215-896-00	METAL OXIDE	4.7K 5% 2W F
R391	1-249-429-11	CARBON	10K 5% 1/4W	R620	1-215-896-00	METAL OXIDE	4.7K 5% 2W F
R392	1-249-425-11	CARBON	4.7K 5% 1/4W	R621	1-249-417-11	CARBON	1K 5% 1/4W
R393	1-249-437-11	CARBON	47K 5% 1/4W	R623	1-249-421-11	CARBON	2.2K 5% 1/4W
R394	1-249-437-11	CARBON	47K 5% 1/4W	R625 Δ	1-216-395-51	METAL OXIDE	3.3 5% 3W F
R395	1-249-409-11	CARBON	220 5% 1/4W	R626	1-249-443-11	CARBON	0.47 5% 1/4W F
R396	1-249-409-11	CARBON	220 5% 1/4W	R627	1-249-425-11	CARBON	4.7K 5% 1/4W
R500	1-249-433-11	CARBON	22K 5% 1/4W	R628	1-249-425-11	CARBON	4.7K 5% 1/4W
R502	1-215-893-11	METAL OXIDE	1.5K 5% 2W F	R629	1-249-417-11	CARBON	1K 5% 1/4W
R503	1-215-893-11	METAL OXIDE	1.5K 5% 2W F	R1017	1-249-431-11	CARBON	15K 5% 1/4W
R504	1-249-423-11	CARBON	3.3K 5% 1/4W	R1101	1-249-441-11	CARBON	100K 5% 1/4W
R505	1-247-722-11	CARBON	5.6K 5% 1/4W F	R1102	1-249-429-11	CARBON	10K 5% 1/4W
R506	1-216-345-11	METAL OXIDE	0.47 5% 1W F	R1103	1-249-429-11	CARBON	10K 5% 1/4W
R507	1-249-401-11	CARBON	47 5% 1/4W	R1104	1-249-429-11	CARBON	10K 5% 1/4W
R510	1-247-696-11	CARBON	47 5% 1/4W F	R1105	1-249-429-11	CARBON	10K 5% 1/4W
R511	1-247-891-00	CARBON	330K 5% 1/4W	R1106	1-249-440-11	CARBON	82K 5% 1/4W
R512	1-215-884-11	METAL OXIDE	47 5% 2W F	R1107	1-249-441-11	CARBON	100K 5% 1/4W
R513	1-215-886-11	METAL OXIDE	100 5% 2W F	R1108	1-249-435-11	CARBON	33K 5% 1/4W
R514	1-249-433-11	CARBON	22K 5% 1/4W	R1109	1-249-434-11	CARBON	27K 5% 1/4W
R515	1-216-376-00	METAL OXIDE	3.9 5% 2W F	R1110	1-249-423-11	CARBON	3.3K 5% 1/4W
R516	1-249-426-11	CARBON	5.6K 5% 1/4W	R1111	1-249-429-11	CARBON	10K 5% 1/4W
R517	1-249-429-11	CARBON	10K 5% 1/4W	R1117	1-249-437-11	CARBON	47K 5% 1/4W
R518	1-249-417-11	CARBON	1K 5% 1/4W	R1118	1-249-437-11	CARBON	47K 5% 1/4W
R519	1-216-376-00	METAL OXIDE	3.9 5% 2W F	R1119	1-249-405-11	CARBON	100 5% 1/4W
R521	1-249-441-11	CARBON	100K 5% 1/4W	<RELAY>			
R522	1-247-885-00	CARBON	180K 5% 1/4W	RY601Δ 1-515-720-41 RELAY			
R523	1-215-886-11	METAL OXIDE	100 5% 2W F	<SPARK GAP>			
R530	1-247-711-11	CARBON	680 5% 1/4W F	SG501 1-519-422-11 GAP, SPARK			
R533	1-215-880-00	METAL OXIDE	10 5% 2W F	<TRANSFORMER>			
R534	1-249-439-11	CARBON	68K 5% 1/4W	T500 Δ 1-439-416-41 TRANSFORMER ASSY, FLYBACK (NX-1604)			
R536	1-249-421-11	CARBON	2.2K 5% 1/4W	T501 Δ 1-437-195-13 TRANSFORMER, HORIZONTAL DRIVE			
R540	1-216-369-00	METAL OXIDE	1 5% 2W F	T502 Δ 1-421-794-11 TRANSFORMER, FERRITE (PMT)			
R541	1-249-425-11	CARBON	4.7K 5% 1/4W	T601 Δ 1-424-220-21 TRANSFORMER, LINE FILTER			
R542	1-249-431-11	CARBON	15K 5% 1/4W	T602 Δ 1-424-205-21 TRANSFORMER, LINE FILTER			
R544	1-249-425-11	CARBON	4.7K 5% 1/4W	T604 Δ 1-448-916-11 TRANSFORMER, POWER			
R545	1-249-436-11	CARBON	39K 5% 1/4W	*****			
R546	1-215-446-00	METAL	11K 1% 1/4W	<TUNER>			
R547	1-249-405-11	CARBON	100 5% 1/4W	TU101Δ 1-465-384-11 TUNER, ET (BTP-202)			
R551	1-215-459-00	METAL	39K 1% 1/4W	<CRYSTAL>			
R552	1-249-385-11	CARBON	2.2 5% 1/4W F	X101 1-577-082-11 VIBRATOR, CERAMIC			
R553	1-249-437-11	CARBON	47K 5% 1/4W	X301 1-567-505-11 OSCILLATOR, CRYSTAL			
R554	1-216-371-00	METAL OXIDE	1.5 5% 2W F	*****			
☒ R559 Δ		CARBON	1/4W	**A-1316-100-A G BOARD, COMPLETE			
R563 Δ	1-216-453-91	METAL OXIDE	270 5% 2W F	*****			
R564	1-215-869-11	METAL OXIDE	1K 5% 1W F	*4-341-751-01 EYELET (EY607, EY608)			
R565 Δ	1-216-379-91	METAL OXIDE	6.8 5% 2W F	*4-341-752-01 EYELET (EY601~EY606)			
R566	1-249-443-11	CARBON	0.47 5% 1/4W F	<CAPACITOR>			
R567	1-249-377-11	CARBON	0.47 5% 1/4W F	C615 1-124-563-11 ELECT 2200MF 20% 25V			
☒ R570 Δ	1-216-445-91	METAL OXIDE	12 5% 2W F	— 72 —			
R572	1-249-437-11	CARBON	47K 5% 1/4W	—			
R573	1-247-889-00	CARBON	270K 5% 1/4W	—			
R574	1-249-409-11	CARBON	220 5% 1/4W F	—			
R583	1-249-429-11	CARBON	10K 5% 1/4W	—			
R585	1-249-422-11	CARBON	2.7K 5% 1/4W	—			
R591	1-249-455-11	CARBON	4.7 5% 1/4W F	—			
R592	1-247-895-00	CARBON	470K 5% 1/4W	—			
R593	1-249-441-11	CARBON	100K 5% 1/4W	—			
R594	1-249-429-11	CARBON	10K 5% 1/4W	—			
R601 Δ	1-202-723-91	SOLID	2.2M 10% 1/2W	—			
R602	1-205-983-11	WIREWOUND	1.2 5% 15W	—			
R603	1-216-444-11	METAL OXIDE	82K 5% 1W F	—			

- The components identified by **☒** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
- Should replacement be required, replace only with the value originally used.

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifique.

G C

C

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

C H U2

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
R749	1-249-437-11	CARBON	47K 5% 1/4W	C900	1-101-004-00	CERAMIC	0.01MF				
R750	1-249-409-11	CARBON	220 5% 1/4W	C901	1-126-233-11	ELECT	22MF 20% 25V				
R751	1-249-397-11	CARBON	22 5% 1/4W	C902	1-124-907-11	ELECT	10MF 20% 50V				
R752	1-249-397-11	CARBON	22 5% 1/4W	C903	1-124-907-11	ELECT	10MF 20% 50V				
R753	1-249-397-11	CARBON	22 5% 1/4W	C904	1-124-907-11	ELECT	10MF 20% 50V				
R757	1-249-416-11	CARBON	820 5% 1/4W	C905	1-124-907-11	ELECT	10MF 20% 50V				
R777	1-249-441-11	CARBON	100K 5% 1/4W	C906	1-124-907-11	ELECT	10MF 20% 50V				
<VARIABLE RESISTOR>											
RV701	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M	C907	1-124-907-11	ELECT	10MF 20% 50V				
RV702	Δ 1-230-619-11	RES, ADJ, METAL GLAZE	110M	C908	1-126-233-11	ELECT	22MF 20% 25V				
				C909	1-126-233-11	ELECT	22MF 20% 25V				
				C910	1-126-233-11	ELECT	22MF 20% 25V				

<DIODE>											
*1-633-485-31	H BOARD	*****		D900	8-719-110-13	DIODE RD9.1ES-B2					
				D901	8-719-110-13	DIODE RD9.1ES-B2					
*4-334-315-00	CAP, LED			D902	8-719-110-13	DIODE RD9.1ES-B2					
*4-334-322-00	HOLDER (A), LED			D903	8-719-110-13	DIODE RD9.1ES-B2					
*4-374-987-01	GUIDE, LIGHT			D904	8-719-110-13	DIODE RD9.1ES-B2					
*4-381-686-01	BRACKET (B), LIGHT GUIDE			D905	8-719-110-13	DIODE RD9.1ES-B2					
<CAPACITOR>											
C52	1-124-477-11	ELECT	47MF	20%	16V	D906	8-719-110-13	DIODE RD9.1ES-B2			
				D907	8-719-110-13	DIODE RD9.1ES-B2					
				D908	8-719-110-13	DIODE RD9.1ES-B2					
				D909	8-719-110-13	DIODE RD9.1ES-B2					
				D910	8-719-110-13	DIODE RD9.1ES-B2					
<CONNECTOR>											
D1	8-719-311-89	DIODE SEL1222R-C		<JACK>							
D2	8-719-311-89	DIODE SEL1222R-C		J1901	1-565-931-11	TERMINAL BLOCK, S 3P					
D51	8-719-911-19	DIODE ISS119		J1902	1-565-840-41	PIN JACK BLOCK 5P					
<IC>				J1904	1-565-838-11	JACK BLOCK, PIN 2P					
H11	*1-564-525-11	PLUG, CONNECTOR 10P		J1905	1-537-187-11	TERMINAL, PUSH (4P)					
H12	*1-564-522-11	PLUG, CONNECTOR 7P		<NEON LAMP>							
S1	*1-565-513-11	PIN, CONNECTOR 2P		NL901	1-519-108-99	LAMP, NEON					
<TRANSISTOR>				NL903	1-519-108-99	LAMP, NEON					
I C51	8-741-148-33	IC SBX1483-59		<RESISTOR>							
<RESISTOR>								<RESISTOR>			
R51	1-249-409-11	CARBON	220 5% 1/4W	R900	1-247-804-11	CARBON	75 5% 1/4W				
R52	1-249-393-11	CARBON	10 5% 1/4W	R901	1-247-804-11	CARBON	75 5% 1/4W				
<SWITCH>								<SWITCH>			
S50	Δ 1-572-198-11	SWITCH, KEYBOARD (POWER)		R902	1-249-405-11	CARBON	100 5% 1/4W				
S51	1-572-198-11	SWITCH, KEYBOARD		R905	1-247-804-11	CARBON	75 5% 1/4W				
S52	1-572-198-11	SWITCH, KEYBOARD		R906	1-247-895-00	CARBON	470K 5% 1/4W				
S53	1-572-198-11	SWITCH, KEYBOARD		R907	1-247-895-00	CARBON	470K 5% 1/4W				
S54	1-572-198-11	SWITCH, KEYBOARD		R908	1-249-405-11	CARBON	100 5% 1/4W				
S55	1-572-198-11	SWITCH, KEYBOARD		R911	1-247-804-11	CARBON	75 5% 1/4W				
S56	1-572-198-11	SWITCH, KEYBOARD		R912	1-247-895-00	CARBON	470K 5% 1/4W				
<CAPACITOR>								<CAPACITOR>			
*****								<CAPACITOR>			
*1-633-487-31 U2 BOARD								<CAPACITOR>			
*****								<CAPACITOR>			
*4-341-752-01 EYELET (EY901~EY904)								<CAPACITOR>			
				R914	1-249-417-11	CARBON	1K 5% 1/4W				
				R915	1-249-417-11	CARBON	1K 5% 1/4W				
				R916	1-247-895-00	CARBON	470K 5% 1/4W				
				R917	1-247-895-00	CARBON	470K 5% 1/4W				
				R918	1-249-405-11	CARBON	100 5% 1/4W				
				R919	1-249-405-11	CARBON	100 5% 1/4W				

U2 U1

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
<SWITCH>											
SW900	1-572-198-11	SWITCH, KEYBOARD (SERVICE SW)		D421	8-719-911-19	DIODE ISS119					
<CONNECTOR>											
U2-1	*1-565-491-11	CONNECTOR, BOARD TO BOARD 15P		IC402	8-759-710-68	IC NJM2245S					
U2-2	*1-565-491-11	CONNECTOR, BOARD TO BOARD 15P		IC403	8-759-710-68	IC NJM2245S					
U2-5	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P		IC405	8-759-980-43	IC TDA2009A					

*A-1394-219-A U1 BOARD, COMPLETE				IC444	8-752-053-17	IC CXA1114P					
<COIL>											
L400	1-410-473-11	INDUCTOR	18UH	<TRANSISTOR>							
*4-341-752-01 EYELET (EY401~EY403)											
<CAPACITOR>											
C400	1-126-233-11	ELECT	22MF	20%	25V	Q400	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C401	1-124-477-11	ELECT	47MF	20%	16V	Q401	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C402	1-101-004-00	CERAMIC	0.01MF		50V	Q402	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C403	1-101-004-00	CERAMIC	0.01MF		50V	Q403	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C404	1-102-973-00	CERAMIC	100PF	5%	50V	Q404	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C405	1-124-477-11	ELECT	47MF	20%	16V	Q405	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C406	1-126-233-11	ELECT	22MF	20%	25V	Q406	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C407	1-126-233-11	ELECT	22MF	20%	25V	Q407	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C408	1-124-478-11	ELECT	100MF	20%	25V	Q408	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C409	1-126-233-11	ELECT	22MF	20%	25V	Q409	8-729-119-76	TRANSISTOR 2SA1175-HFE			
C412	1-124-477-11	ELECT	47MF	20%	16V	Q410	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C413	1-124-478-11	ELECT	100MF	20%	25V	Q413	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C414	1-126-233-11	ELECT	22MF	20%	25V	Q414	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C415	1-126-233-11	ELECT	22MF	20%	25V	Q415	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C416	1-126-233-11	ELECT	22MF	20%	25V	Q416	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C417	1-126-233-11	ELECT	22MF	20%	25V	Q417	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C418	1-124-478-11	ELECT	100MF	20%	25V	Q430	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C419	1-101-004-00	CERAMIC	0.01MF		50V	Q431	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C420	1-126-233-11	ELECT	22MF	20%	25V	Q432	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
C421	1-124-478-11	ELECT	100MF	20%	25V	Q433	8-729-119-76	TRANSISTOR 2SA1175-HFE			
C422	1-101-004-00	CERAMIC	0.01MF		50V	R400	1-249-421-11	CARBON 2.2K 5% 1/4W			
C426	1-126-233-11	ELECT	22MF	20%	25V	R401	1-249-405-11	CARBON 100 5% 1/4W			
C460	1-126-320-11	ELECT	10MF	20%	16V	R402	1-249-429-11	CARBON 10K 5% 1/4W			
C461	1-126-233-11	ELECT	22MF	20%	25V	R403	1-249-417-11	CARBON 1K 5% 1/4W			
C462	1-124-120-11	ELECT	220MF	20%	25V	R404	1-249-405-11	CARBON 100 5% 1/4W			
C463	1-126-320-11	ELECT	10MF	20%	16V	R405	1-249-429-11	CARBON 10K 5% 1/4W			
C464	1-124-563-11	ELECT	2200MF	20%	25V	R406	1-249-417-11	CARBON 1K 5% 1/4W			
C465	1-106-220-00	MYLAR	0.1MF	10%	100V	R407	1-249-417-11	CARBON 1K 5% 1/4W			
C466	1-124-563-11	ELECT	2200MF	20%	25V	R408	1-249-429-11	CARBON 10K 5% 1/4W			
C467	1-106-220-00	MYLAR	0.1MF	10%	100V	R409	1-249-405-11	CARBON 100 5% 1/4W			
C468	1-136-173-00	FILM	0.47MF	5%	50V	R410	1-249-417-11	CARBON 1K 5% 1/4W			
C469	1-124-563-11	ELECT	2200MF	20%	25V	R411	1-249-429-11	CARBON 10K 5% 1/4W			
C471	1-126-233-11	ELECT	22MF	20%	25V	R412	1-249-405-11	CARBON 100 5% 1/4W			
C472	1-124-120-11	ELECT	220MF	20%	25V	R413	1-249-417-11	CARBON 1K 5% 1/4W			
C475	1-124-925-11	ELECT	2.2MF	20%	50V	R414	1-249-431-11	CARBON 15K 5% 1/4W			
<FILTER BLOCK>											
CM1301	1-466-162-31	BLOCK, COM FILTER (CFB-4)		R415	1-249-429-11	CARBON 10K 5% 1/4W					
<DIODE>											
D407	8-719-110-17	DIODE RD10ES-B2		R416	1-249-417-11	CARBON 1K 5% 1/4W					
D408	8-719-109-89	DIODE RD5.6ES-B2		R417	1-249-417-11	CARBON 1K 5% 1/4W					
D409	8-719-109-89	DIODE RD5.6ES-B2		R418	1-249-425-11	CARBON 4.7K 5% 1/4W					
D420	8-719-911-19	DIODE ISS119		R419	1-249-417-11	CARBON 1K 5% 1/4W					
<RESISTOR>											
R420	1-249-417-11	CARBON 1K 5% 1/4W		R421	1-249-431-11	CARBON 15K 5% 1/4W					
R422	1-249-417-11	CARBON 1K 5% 1/4W		R423	1-249-429-11	CARBON 10K 5% 1/4W					
R423	1-249-429-11	CARBON 10K 5% 1/4W		R424	1-249-425-11	CARBON 4.7K 5% 1/4W					
R424	1-249-425-11	CARBON 4.7K 5% 1/4W		R425	1-249-417-11	CARBON 1K 5% 1/4W					

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

U1

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R426	1-249-405-11	CARBON	100 5% 1/4W				<CONNECTOR>
R427	1-249-405-11	CARBON	100 5% 1/4W	U1-1	*1-565-506-11	CONNECTOR, BOARD TO BOARD 15P	
R428	1-249-417-11	CARBON	1K 5% 1/4W	U1-2	*1-565-506-11	CONNECTOR, BOARD TO BOARD 15P	
R429	1-249-405-11	CARBON	100 5% 1/4W	U1-4	*1-564-505-11	PLUG, CONNECTOR 2P	
R432	1-249-435-11	CARBON	33K 5% 1/4W	U1-5	*1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
R433	1-249-435-11	CARBON	33K 5% 1/4W	U1-22	*1-565-494-11	CONNECTOR, BOARD TO BOARD 18P	
R434	1-249-413-11	CARBON	470 5% 1/4W				
R435	1-249-413-11	CARBON	470 5% 1/4W	U1-23	*1-565-494-11	CONNECTOR, BOARD TO BOARD 18P	
R436	1-249-405-11	CARBON	100 5% 1/4W				*****
R437	1-249-405-11	CARBON	100 5% 1/4W				
R438	1-249-417-11	CARBON	1K 5% 1/4W				MISCELLANEOUS
R439	1-249-405-11	CARBON	100 5% 1/4W				*****
R441	1-249-405-11	CARBON	100 5% 1/4W	▲.1-426-350-11	COIL, DEMAGNETIZATION		
R444	1-249-414-11	CARBON	560 5% 1/4W	▲.1-451-275-31	DEFLECTION YOKE (Y28PFA)		
R445	1-249-414-11	CARBON	560 5% 1/4W	1-452-032-00	MAGNET, DISK; 10MM ϕ		
R446	1-249-414-11	CARBON	560 5% 1/4W	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ		
R447	1-249-414-11	CARBON	560 5% 1/4W	1-544-313-11	SPEAKER UNIT		
R450	1-249-417-11	CARBON	1K 5% 1/4W				
R451	1-249-405-11	CARBON	100 5% 1/4W	*1-556-945-21	CABLE, P-P		
R452	1-249-405-11	CARBON	100 5% 1/4W	1-561-306-00	JACK, PIN (F)		
R453	1-249-417-11	CARBON	1K 5% 1/4W	*1-565-514-11	SOCKET, CONNECTOR 2P		
R454	1-249-417-11	CARBON	1K 5% 1/4W	▲.1-590-492-11	CORD, POWER (WITH CONNECTOR)	(KV-27EXR25(U/C) ONLY)	
R455	1-249-417-11	CARBON	1K 5% 1/4W				
R456	1-249-405-11	CARBON	100 5% 1/4W				
R457	1-249-417-11	CARBON	1K 5% 1/4W	V901 ▲.8-737-753-05	PICTURE TUBE (A68JMT50X)		
R458	1-249-405-11	CARBON	100 5% 1/4W				*****
R459	1-249-417-11	CARBON	1K 5% 1/4W				ACCESSORIES AND PACKING MATERIALS
R463	1-249-405-11	CARBON	100 5% 1/4W				*****
R466	1-249-405-11	CARBON	100 5% 1/4W				
R467	1-249-430-11	CARBON	12K 5% 1/4W				
R468	1-249-430-11	CARBON	12K 5% 1/4W				PART NO. DESCRIPTION REMARK
R470	1-249-441-11	CARBON	100K 5% 1/4W	1-562-443-11	CONNECTOR, ANTENNA		
R471	1-247-883-00	CARBON	150K 5% 1/4W	3-752-976-21	MANUAL, INSTRUCTION		
R475	1-249-413-11	CARBON	470 5% 1/4W	3-752-976-31	MANUAL, INSTRUCTION (KV-27EXR25(C) ONLY)		
R476	1-249-441-11	CARBON	100K 5% 1/4W	4-384-027-01	BAG, PROTECTION		
R477	1-249-435-11	CARBON	33K 5% 1/4W	*4-397-920-01	CUSHION (UPPER) (ASSY)		
R478	1-249-405-11	CARBON	100 5% 1/4W				
R479	1-249-405-11	CARBON	100 5% 1/4W	*4-397-921-01	CUSHION (LOWER) (ASSY)		
R480	1-249-418-11	CARBON	1.2K 5% 1/4W	*4-397-922-01	INDIVIDUAL CARTON		
R481	1-249-398-11	CARBON	27 5% 1/4W				
R482	1-249-421-11	CARBON	2.2K 5% 1/4W				REMOTE COMMANDER
R483	1-249-381-11	CARBON	1 5% 1/4W	1-465-764-11	REMOTE COMMANDER (RM-Y103)		
R484	1-249-418-11	CARBON	1.2K 5% 1/4W				(KV-27EXR20(U) ONLY)
R485	1-249-398-11	CARBON	27 5% 1/4W	1-465-765-11	REMOTE COMMANDER (RM-Y104)		
R486	1-249-421-11	CARBON	2.2K 5% 1/4W				(KV-27EXR25(U/C) ONLY)
R487	1-249-381-11	CARBON	1 5% 1/4W	3-707-584-01	COVER, BATTERY (FOR RM-Y103,RM-Y104)		
R488	1-249-426-11	CARBON	5.6K 5% 1/4W				
R489	1-249-425-11	CARBON	4.7K 5% 1/4W				
R492	1-249-426-11	CARBON	5.6K 5% 1/4W				
R493	1-249-425-11	CARBON	4.7K 5% 1/4W				
R494	1-249-405-11	CARBON	100 5% 1/4W				
R495	1-249-421-11	CARBON	2.2K 5% 1/4W				
R496	1-249-421-11	CARBON	2.2K 5% 1/4W				
R497	1-249-405-11	CARBON	100 5% 1/4W				
R498	1-249-437-11	CARBON	47K 5% 1/4W				
R499	1-249-437-11	CARBON	47K 5% 1/4W				
R1400	1-249-435-11	CARBON	33K 5% 1/4W				
R1401	1-249-435-11	CARBON	33K 5% 1/4W				
R1402	1-249-435-11	CARBON	33K 5% 1/4W				
R1403	1-249-435-11	CARBON	33K 5% 1/4W				
R1406	1-249-405-11	CARBON	100 5% 1/4W				
R1407	1-249-405-11	CARBON	100 5% 1/4W				

KV-27EXR20/27EXR25
RM-Y103 RM-Y104

9-964-655-01

Sony Corporation
TV Group

— 78 —

English
91KJ0903-1
Printed in Japan
© 1991.2

KV-27EXR20/27EXR25

RM-Y103/Y104

SONY.
SERVICE MANUAL

CORRECTION-1

File this correction with the service manual.

→ : Corrected portion

SECTION 7

7-1.CHASSIS

SPEAKER UNIT

US Model

KV-27 EXR 20

Chassis No.SCC-D50E-A

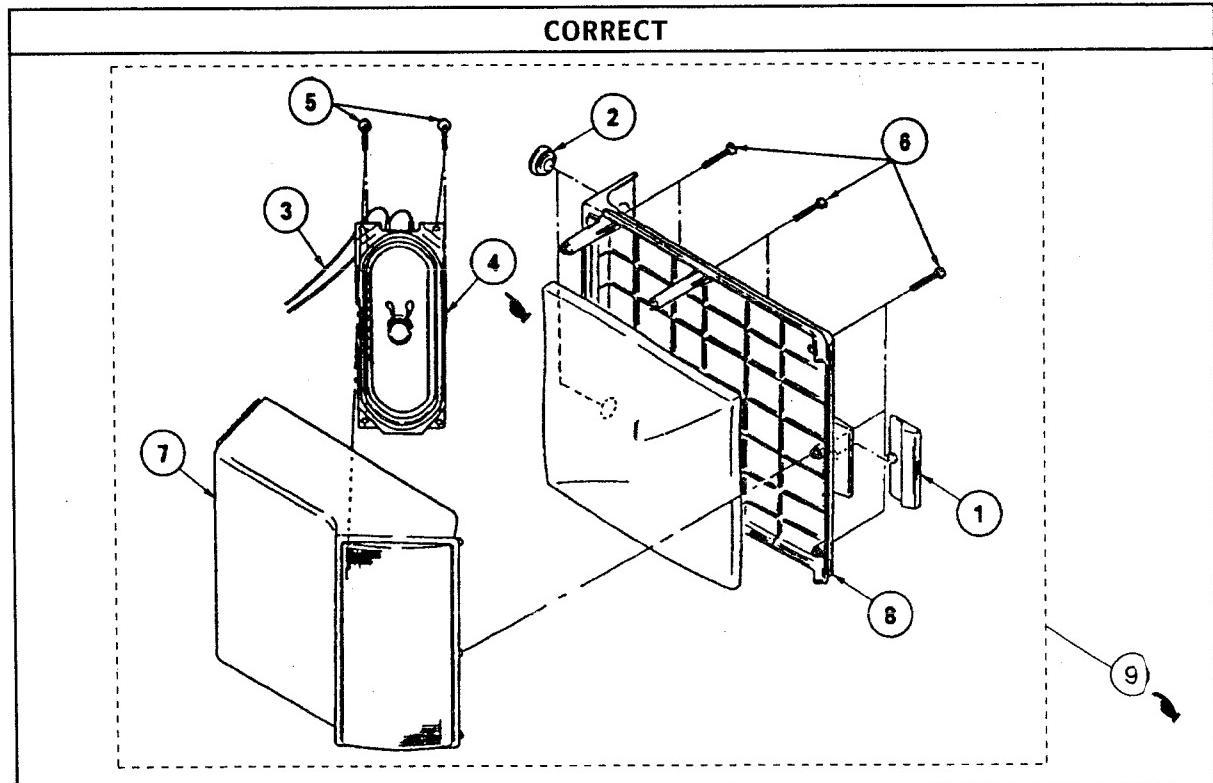
KV-27 EXR 25

Chassis No.SCC-D50F-A

Canadian Model

KV-27 EXR 25

Chassis No.SCC-D61C-A



REF. NO. PART NO. DESCRIPTION

MISCELLANEOUS

9-996-897-01 CORD, SPEAKER, ASSY

SPEAKER

REMARK

REF. NO. PART NO. DESCRIPTION

1 9-995-677-01 CUSHION-G, 28-72-11

2 9-995-678-01 CUSHION-G, DIA 8-18-8

3 9-996-897-01 CORD, SPEAKER, ASSY

4 1-544-315-11 SPEAKER

5 9-995-683-01 VFT 2+3-16

6 9-995-684-01 VT 2+3-16

7 9-995-686-01 CABINET, TOP, ASSY

8 9-995-687-01 CABINET, BOTTOM, ASSY

9 1-544-313-11 SPEAKER UNIT

REMARK



9.964-655-91

Sony Corporation
TV Group

English
BE 1848-1
Printed in Japan
© 1992, 2